SERVICE MANUAL

FOR
REMOTE CONTROL AUDIO SYSTEM

TD10	**Tuner**
TD10L	**Tuner**
AD20	**Amplifier**
CD30	**Cassette Deck**
PD40	**Turntable**
RD50/L	**Commander**

® inkel

SPECIFICATIONS

TUNER

● FM SECTION(TD 10/TD10L)

Tuning Range		87.5-108.2MHz
Usable Sensitivity at S+N+D/N+D=30dB, 300Ω		1.9μV(10.8dBf)
50dB Quieting Sensitivity,	Mono	3.0μV(15.0dBf)
	Stereo	40μV(37.2dBf)
THD at 1KHz, 100% Mod,	Mono	0.1%
	Stereo	0.15%
Signal to Noise Ratio, IHF	Mono	78dB
	Stereo	70dB
Stereo Separation at 1KHz		50dB
Capture Ratio		1.5dB
Alternate Channel Selectivity		65dB
Frequency Response, 20-15KHz		+0.5/−1dB
Audio Output Voltage, 1KHz, 100% Mod		600mV

● AM SECTION(TD10)

Tuning Range	525-1650KHz
Usable Sensitivity, 20dB S/N Loop Antenna	700μV/m
Selectivity	25dB
Signal to Noise Ratio, 30% Mod ref.	55dB
Audio Output Voltage, 400Hz, 30% Mod	150mV

● MW/LW SECTION (TD10L)

Tuning Range	MW: 525-1625KHz LW : 150-350KHz
Sensitivity, 20dB S/N, loop antenna	MW: 800μV/m LW : 1500μV/m
Selectivity	25dB
IF Rejection	35dB
Image Rejection	40dB
Signal to Noise Ratio, 30% Mod	40dB
Audio Output Voltage, 400Hz, 30% Mod	250mV

AMPLIFIER(AD20)

Power Output, Continuous RMS with no more than 0.1% THD		
	at 8 ohms, 20-20,000Hz	25W
	at 8 ohms, 1KHz	30W
	at 4 ohms, 1KHz	35W
Intermodulation Distortion, 60Hz: 7KHz=4: 1 SMPTE		
	25W output into 8 ohms	0.1%
Damping Factor at 1KHz, 8 ohms		45
Input Sensitivity for 25W output 8 ohms at 1KHz		
	Phono	2.5mV
	Tuner/Tape	150mV
Phono Pre-Amp Input Overload at 1KHz, 0.1% THD		150mV
Signal to Noise Ratio, IHF "A" wtd/unwtd		
	Phono	80/75dB
	Tuner/Tape	95/90dB
Frequency Response	Phono, RIAA 30-20,000Hz	±0.5dB
	Tuner at 1W, −3dB	10-60,000Hz
Tone Control	Bass at 100Hz, Treble at 10KHz	±10dB

SPECIFICATIONS

Loudness Contour at 100Hz / 10KHz	+7dB/+2.5dB
Channel Separation at Tuner/Tape, 1KHz	55dB
10KHz	50dB

CASSETTE DECK (CD30)

Type	Feather touch, Direct front loading stereo cassette deck	
Track system	4 track, 2 channel stereo recording/play back	
Recording system	AC bias system(bias frequency: 95KHz)	
Erasing system	AC system	
Tape speed	1-7/8 ips(4.76cm/sec)	
Heads	Hard Permalloy recording/playback headx1	
	Double Gap erasing headx1	
Motor	Electronic governor controlled DC motor	
Wow and flutter	Less than 0.06%(WRMS)	
Fast winding time	Approximately 85 seconds with C-60 cassette tape	
Frequency response		
—20dB RECORDING	Normal tape	25-15,000Hz
		(30-13,500 Hz± 3dB)
	CrO_2 tape	25-17,000Hz
		(30-15,000Hz± 3dB)
	METAL tape	25-18,000Hz
		(30-16,000Hz± 3dB)
0dB RECORDING	METAL tape	30-10,000Hz± 3dB
Signal to noise ratio (REC/PB)	Dolby NR ON	62dB(Normal tape)
	(Weighted)	66dB(CrO_2 tape)
		65dB(METAL tape)
	Dolby NR OFF	53dB(Normal tape)
	(Weighted)	57dB(CrO_2 tape)
		56dB(METAL tape)
Total harmonic distortion	Less than 1.0% at 1KHz, 0dB RECORDING	
Input sensitivity/Impedance	MIC 0.3mV/600-10K ohms	
	LINE 70mV/47K ohms	
Output level/Load impedance	LINE 550mV/27K ohms	

COMMANDER (RD50/RD50L)

Remote Control Functions	Total 23 Buttons
For Tuner TD10	AM or FM, Recall of 7AM+7FM Presets
Remote Control Functions	Total 24 Buttons
For Tuner TD10L	FM/MW/LW, Recall of 7FM+3MW+4LW Presets
For Amplifier	Power ON or OFF, Phono/Tuner/Tape, Volume UP/DOWN
For Cassette Deck	Play/Rec/Stop/F. F/Rew/Pause
For Turntable	Tonearm Reject, UP/DOWN
Remote Control Technics	15 Bites Pulsecode Modulated Infrared beam
Distance of Remote Control	10m minimum
Type of dry battery	2xUM-3 or size "AA" 1.5V

GENERAL

Power Consumption(System Total)	40-250Watts

SPECIFICATIONS

Unit Dimensions		(WxHxD)	(Feet Height)
	Tuner	440x55x300mm	7mm
	Amplifier	440x55x300mm	7mm
	Cassette deck	440x100x300mm	7mm
	Turntable	440x99x360mm	18mm
	Commander	71x21x140mm	—
Unit Weights,	Tuner	4.2Kg	
	Amplifier	7.7Kg	
	Cassette deck	5.6Kg	
	Turntable	4.3Kg	
	Commander	110gr	

NOTE:
Specifications and design subject to possible modifications without notice due to improvements.

AM/FM Stereo Tuner TD10

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ELECTRICAL ADJUSTMENT PROCEDURE

1. LOW END TUNING VOLTAGE ADJUSTMENT

Before starting this adjustment set the dial pointer at the low end of dial scale and connect the DVM between T.P4 and ground.

A) AM:Adjust A of VR601 (see Fig-1) for 2.5±0.01V reading on the DVM.

B) FM:Adjust B of VR601 (See Fig-1) for 3.8±0.01V reading on the DVM.

2. FM ALIGNMENT

A) FM FREQUENCY COVERAGE TRACKING, SENSITIVITY AND DISTORTION ALIGNMENT.

1. Set the SELECTOR switch to FM.
2. Set the FM Signal Generator as shown Fig-2 with 1KHz,100% (75KHz,Dev.) modulation.
3. Set the MUTE switch to OFF position.

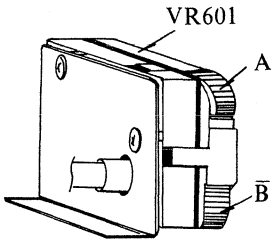


Fig. 1

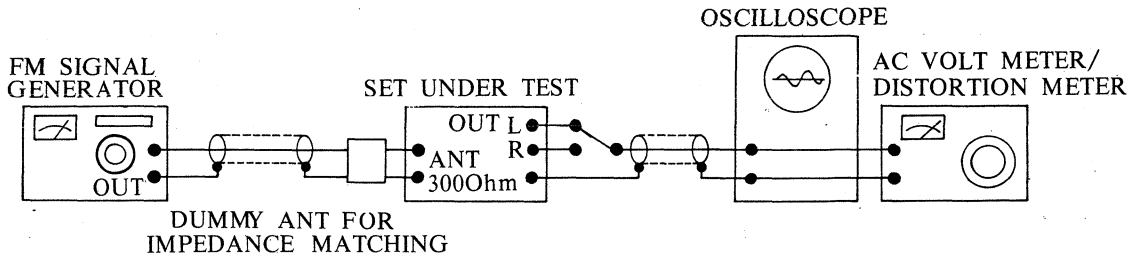


Fig. 2

Step	SG Frequency	SG Output Level	Dial Indication of Set Under Test	Adjust	Indication	Notice
1	87.5MHz	as low as possible	Low End	OSC Coil L105	Maximum Output Reading	Frequency Coverage
2	108.2MHz		High End	Trimmer TC104		
3	Repeat step 1and 2 until no further improvement is noticed.					
4	90MHz	as low as possible	90MHz	L101, L102, L103	Maximum Output Reading	Tracking and Sensitivity
5	106MHz		106MHz	TC101, TC102, TC103		
6	Repeat step 4and 5 until no further improvement is noticed.					
7	98MHz	No Input Signal	98MHz	A Core of T102 (See Fig-3)	Connect the DVM between T. P 2and T. P A, then adjust until the DVM indicates 0 volt.	Offset Tuning
8	98MHz	65dB(59.8dB)	98MHz	B Core of T102 (See Fig-3)	To Minimize Distortion	Distortion
9	Repeat step 7and 8 until no further improvement is noticed.					

* In West Germany market, please change the SG frequency of the above Step 1 to 87.4MHz.

B) FM MPX/MUTING LEVEL AND STEREO DISTORTION ADJUSTMENT

1. Set the SELECTOR switch to FM.
2. Set the MUTE switch to ON position.
3. Set the MPX FILTER switch to OFF position.
4. Set the stereo SG 1KHz,90% (67.5KHz Dev.), Pilot 10% (7.5KHz Dev.) modulation.

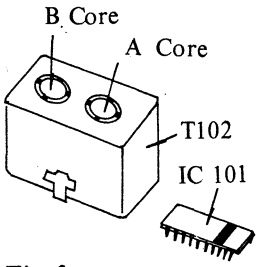


Fig. 3

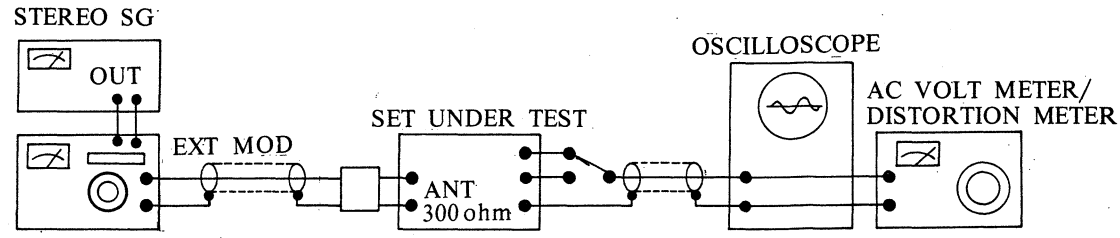


Fig. 4

* Before the adjustment of step 5, connect the DVM between T. P 6and chassis.

Step	SG Frequency	SG Output Level	Stereo SG Mode	Dial Indication of Set Under Test	Adjust	Indication	Notice
1	98MHz	65dB(59.8dB)	Mod.OFF	98MHz	VR103	For turning on of stereo indicator	19KHz OSC
2	98MHz	65dB(59.8dB)	L	98MHz	T101	To Minimize Distortion	Stereo Distortion
3			L(or R)		VR104	To Minimize Output Reading at R ch. (or L ch.) Output	Separation Muting Level
4	98MHz	25dB(19.8dB)	L+R	98MHz	VR101	Output Level edge	
5	98MHz	No Input Signal		98MHz	VR301	4.75±0.1V Reading on the DVM	Offset Voltage

3. AM ALIGNMENT

A) AM FREQUENCY COVERAGE,TRACKING AND SENSITIVITY ALIGNMENT.

1. Set the SELECTOR switch to AM.
2. Set the AM Signal Generator as shown Fig-5.
3. Set the AM SG to 400Hz,30% modulation.

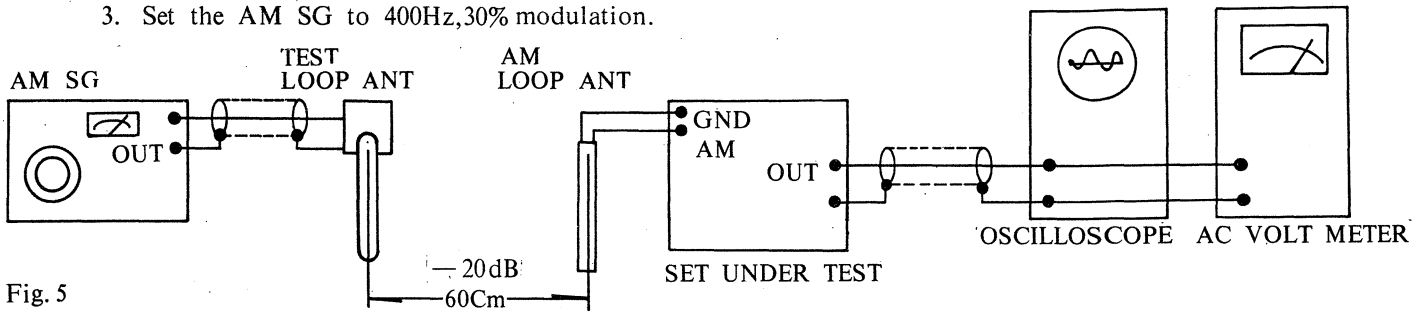


Fig. 5

* SG Output Level as low as possible.

Step	SG Frequency	Dial Indication of Set Under Test	Adjust	Indication	Notice
1	525KHz	Low End	OSC Coil T202	Maximum Output Reading	AM Coverage
2	1650KHz	High End	Trimmer TC202		
3	Repeat step 1and 2 until no further improvement is noticed.				
4	600KHz	600KHz	Ant Coil T201	Maximum Output Reading	Tracking and Sensitivity
5	1400KHz	1400KHz	Trimmer TC201		
6	Repeat step 4and 5 until no further improvement is noticed.				
7	459KHz	Lowest position	IFT T203, T204	Maximum Output Reading	IF Adjustment

B) AM S CURVE DETECTOR AND OFF SET ALIGNMENT.

1. Set the SELECTOR switch to AM.
2. Set the AM Signal Generator and AM Genescope as shown Fig-6.

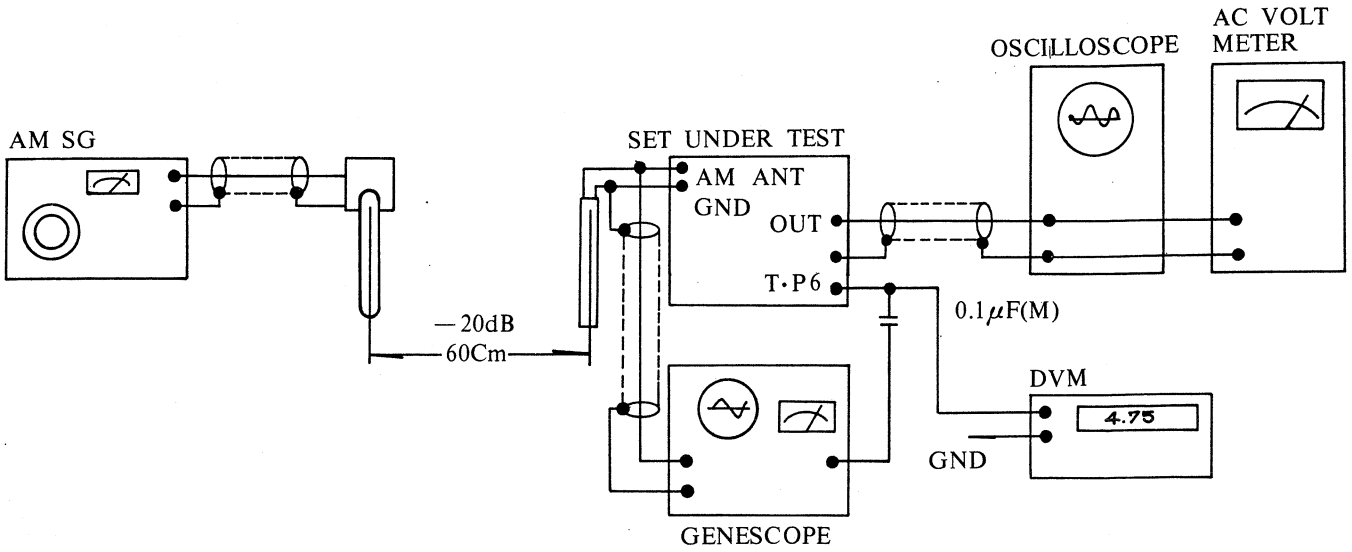


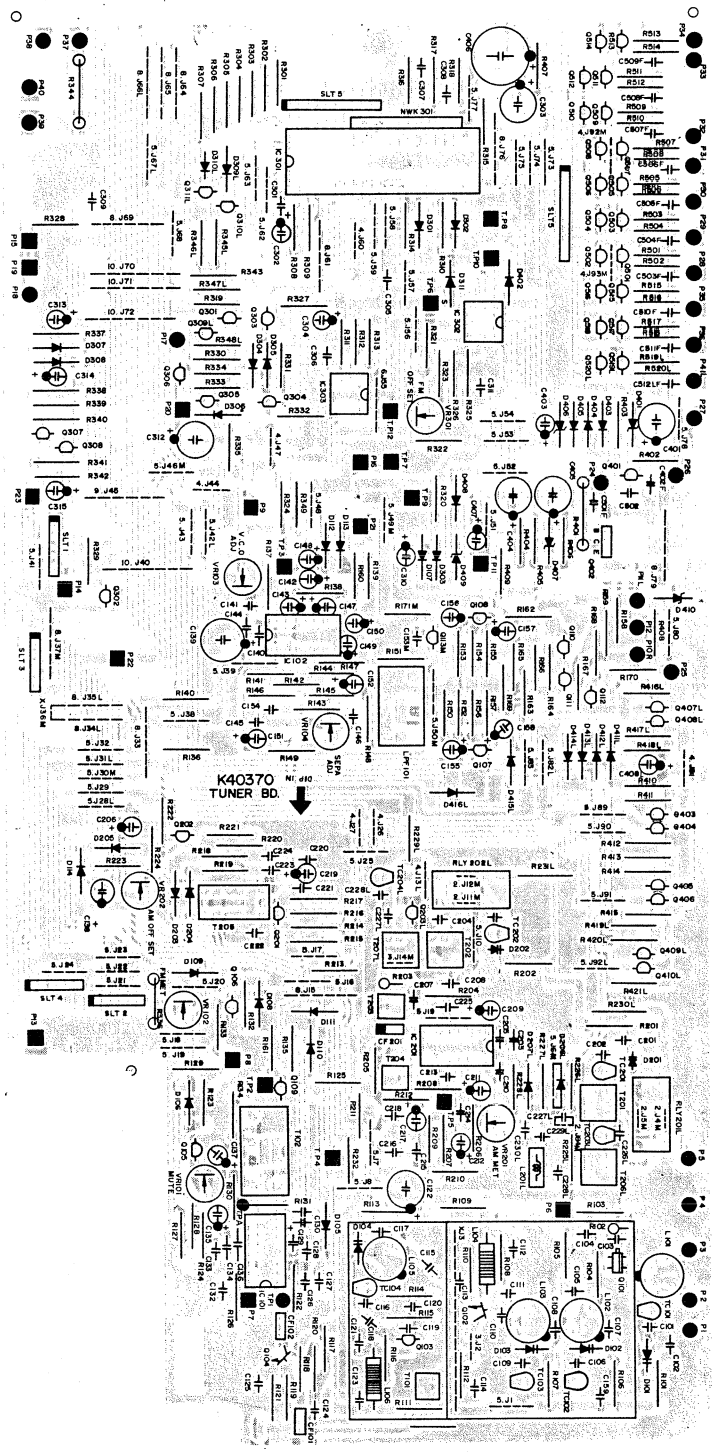
Fig-6

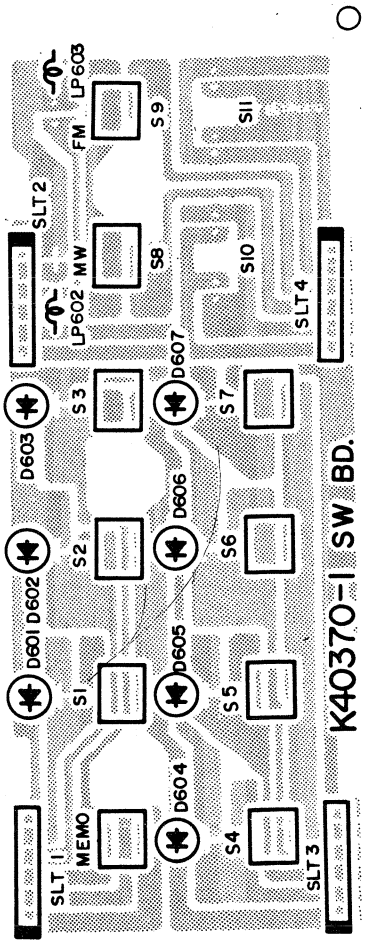
Step	SG Frequency	SG Output Level	Dial Indication of Set Under Test	Adjust	Indication
1	—	No Input Signal	600KHz	White Core of T205	Maximum Waveform on the Genescope
2	—	No Input Signal	600KHz	Blue Core of T205	Balance Waveform on the Genescope
3	—	No Input Signal	600KHz	VR 202	4.75±0.1V on the DVM
4	600KHz	400Hz 30% Mod. 60dB Input	600KHz	Tuning Knob	Maximum Output Level
5		No Mod. 60dB Input		Blue Core of T205	4.75±0.1V on the DVM
6	Repeat step 3, 4 and 5 until no further improvement is noticed.				

NOTE 1. Genescope should be turned off for step 3～step 6 adjustment.

2. The output level of Genescope should be as low as possible when adjusting step 1 and step 2.

TOP VIEW OF P.C. BOARDS





PARTS LIST

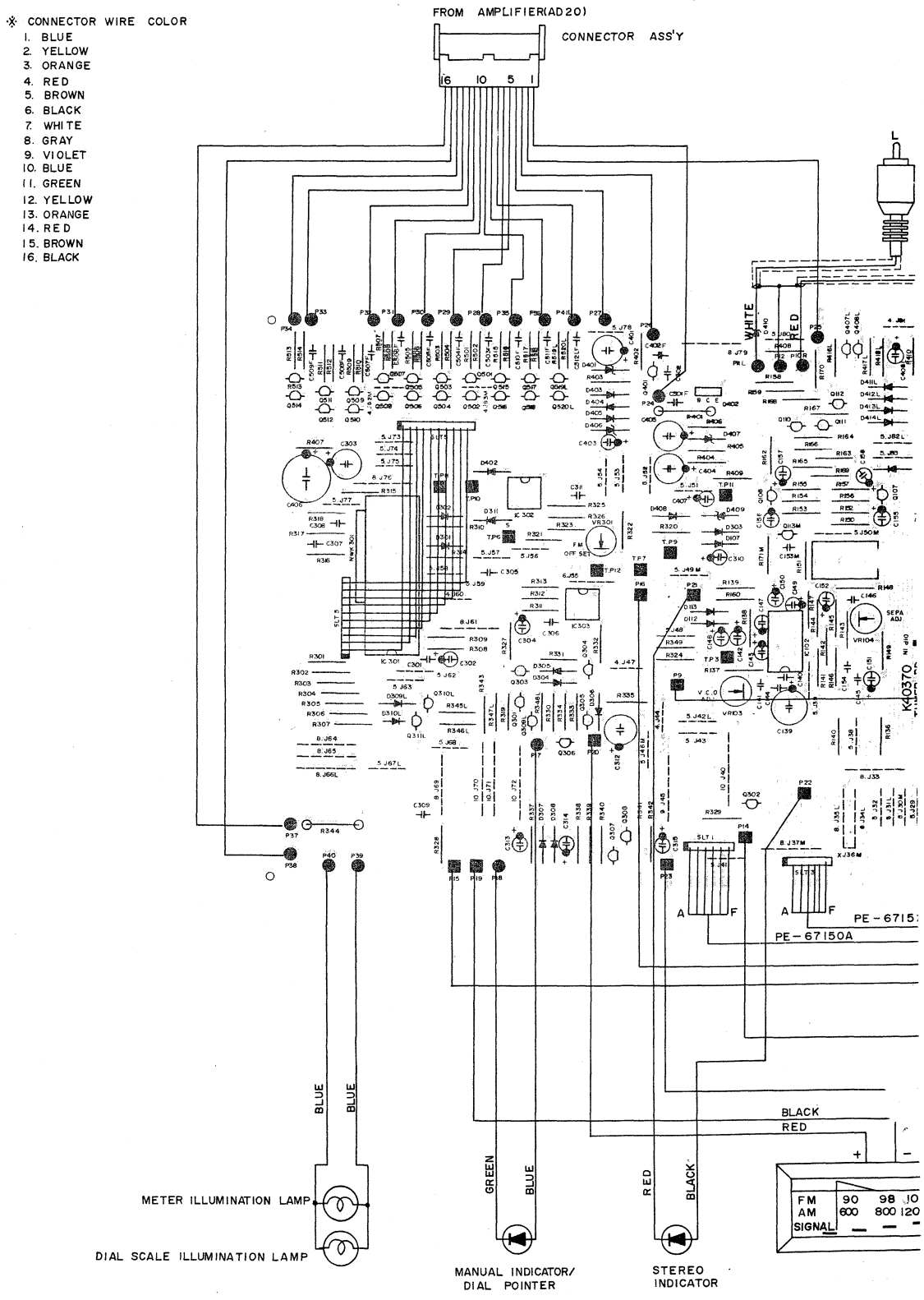
K40370 TUNER BOARD

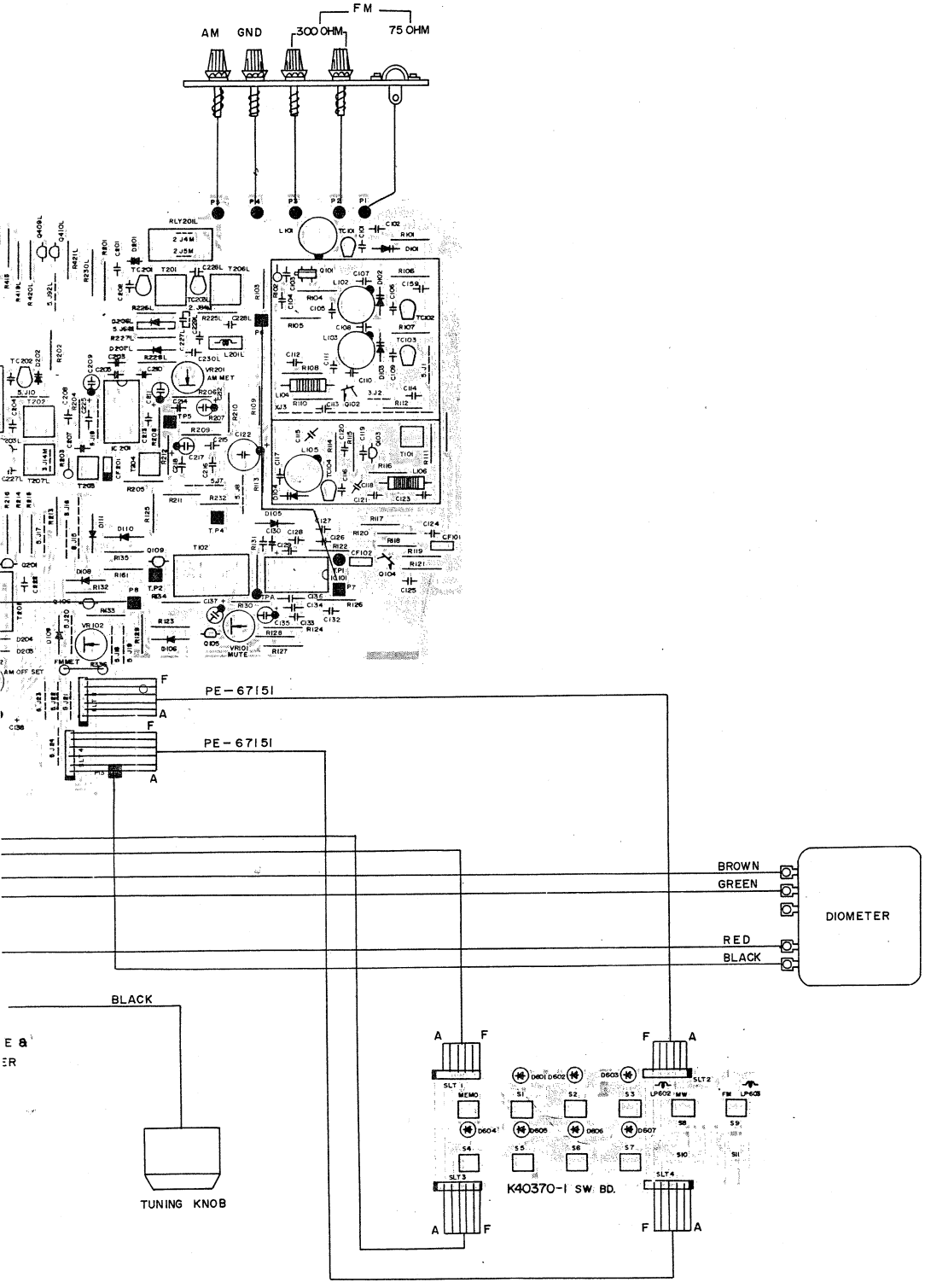
Ref No.	Parts No.	Description	Q'ty
IC101		IC HA1137W	1
IC102		IC HA12016	1
IC201		IC HA1197	1
IC301		IC LC7207	1
IC302, IC303		IC uA1458/MC1458/CA1458E	2
Q101		FET 3SK73GR/3SK59/3SK45	1
Q107, Q108		FET 2SK30A Y/GR	2
Q102, Q103		Transistor KTC 1923Y	2
Q104		Transistor CS9018F	1
Q105, Q106		Transistor 2SC1815 Y/GR	34
Q109, Q110			
Q111, Q113			
Q202, Q301			
Q302, Q303			
Q305, Q306			
Q307, Q308			
Q403, Q405			
Q501, Q502			
Q503, Q504			
Q505, Q506			
Q507, Q508			
Q509, Q510			
Q511, Q512			
Q513, Q514			
Q515, Q516			
Q517, Q518			
Q112, Q303		Transistor 2SA1015Y/GR	2
Q201		Transistor 2SC 380Y/GR	1
Q401, Q404 , Q406		Transistor MPS A05	3
Q402		Transistor 2SD880Y/GR	1
D101, D102		Diode Varactor 1SV 68	4
D103, D104			
D201, D202		Diode Varactor KV1226E/F	2
D105, D106		Diode CDG24/1N4448TR/1S2473	26
D107, D108			
D109, D110			
D111, D112			
D113, D114			
D115, D205			
D301, D302			
D303, D304			
D305, D306			
D307, D308			
D311, D402			
D403, D404			
D405, D408			
D203, D204		Diode IN60(Pair)	2
D401		Diode Zener HZ-27B2L/WZ-270	1
D406 , D409		Diode Zener HZ-7B2L/WZ-071	2
D407		Diode Zener HZ-15B2/WZ-150	1
D410		Diode Zener HZ-4B2/WZ-040	1
D601, D602		LED SLR-54URC	7
D603, D604			
D605, D606			
D607			

Ref No.	Parts No.	Description	Q'ty
D701		LED SLP-154B	1
D702		LED TLR-206	1
CF101	#31008	Filter Ceramic 10.7MA8-M	2
CF102			
CF201	#31014B	Filter Ceramic CFM2-450BL	1
LPF101	#31019	MPX Filter 208BLRB-3541N	1
NWK301		Ladder Resistor Network EXB-LD10103G	1
TC101		Trimmer Capacitor TZ03-110R	4
TC102			
TC103			
TC104			
TC201		Trimmer Capacitor TZ03-R200F	2
TC202			
L101	#30096	Coil FM ANT	1
L102	#30116	Coil FM RF A	1
L103	#30117	Coil FM RF B	1
L105	#30118	Coil FM OSC	1
L104	#30057	Coil Inductor 2.2uH	2
L106			
T101	#30119	Coil FM IFT	1
T102	#30141	Coil Quad Det. 12HF	1
T201	#30158	Coil AM ANT 25A-1170-01	1
T202	#30140	Coil AM OSC	1
T203	#30143	Coil AM IFT(B)	1
T204	#30144	Coil AM IFT	1
T205	#30160	Coil AM Ratio Det. 10EW	1
VR101	#16005	Semifixed Resistor 10K ohm	1
VR102	#16003	Semifixed Resistor 22K ohm	1
VR103	#16013	Semifixed Resistor 3.3K ohm	1
VR104	#16010	Semifixed Resistor 470K ohm	1
VR201	#16004	Semifixed Resistor 2.2K ohm	3
VR202			
VR301			
LP602	PE-64098	Lamp Indicator	2
LP603			
LP701	PE-64069-06	Lamp Dial Scale	1
LP702	PE-64069-02	Lamp Meter	1
VR701	PE-15108	Tuning VR 4EOTME0201	1
MET701	AD-75049-01	Meter	1
R401	60M 220-2J	Resistor Metal Oxide 22ohm 2W(J)	1
R344	60M 100-½J	Resistor Metal Oxide 10ohm ½ W(J)	1

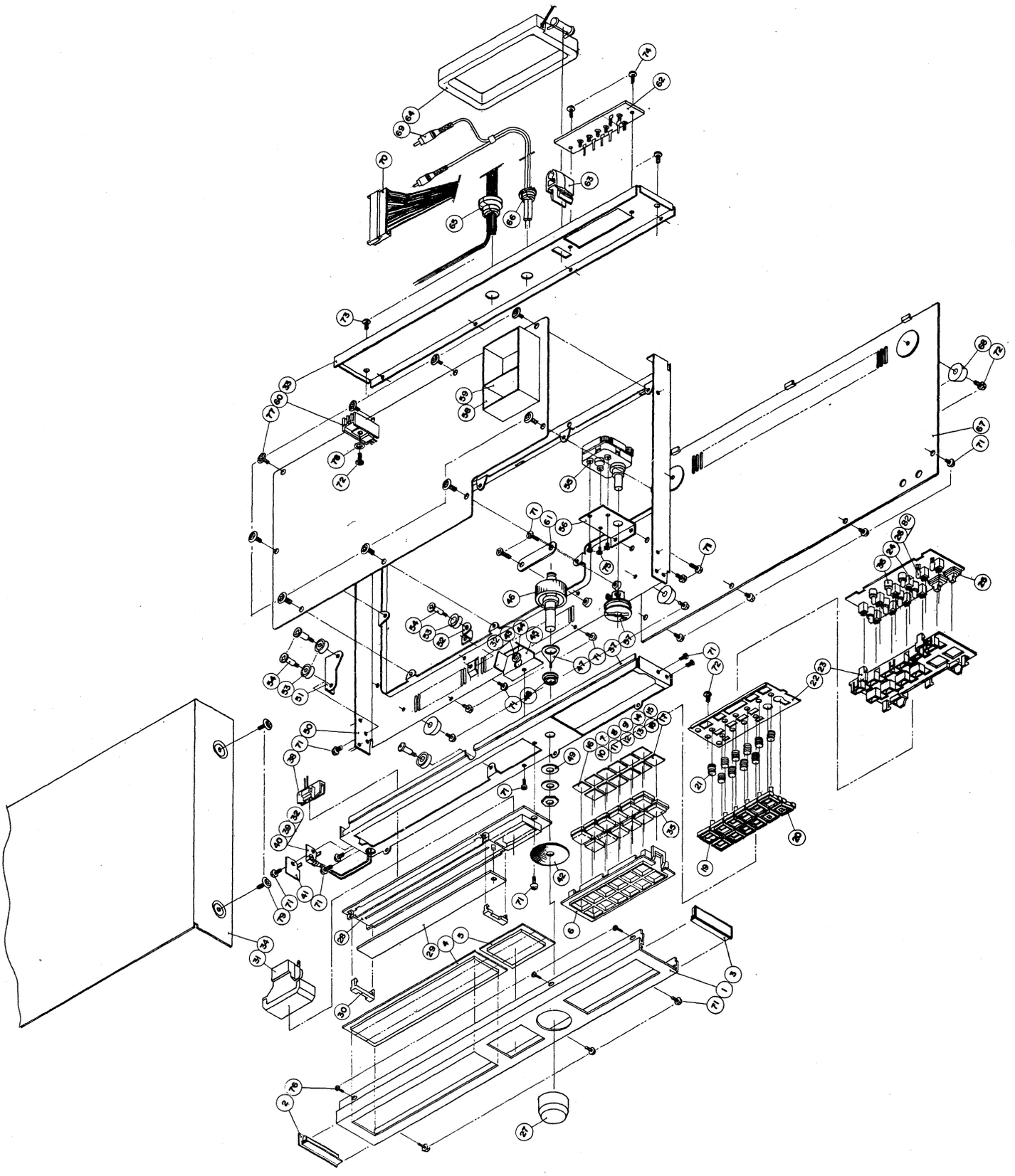
POINT TO POINT WIRING DIAGRAM

※ CONNECTOR WIRE COLOR
1. BLUE
2. YELLOW
3. ORANGE
4. RED
5. BROWN
6. BLACK
7. WHITE
8. GRAY
9. VIOLET
10. BLUE
11. GREEN
12. YELLOW
13. ORANGE
14. RED
15. BROWN
16. BLACK




FM
AM
GND
300 OHM
75 OHM
PE-67151
PE-67151
BROWN
GREEN
RED
BLACK
DIOMETER
BLACK
TUNING KNOB
K40370-1 SW. BD.

EXPLODED VIEW OF CABINET AND CHASSIS

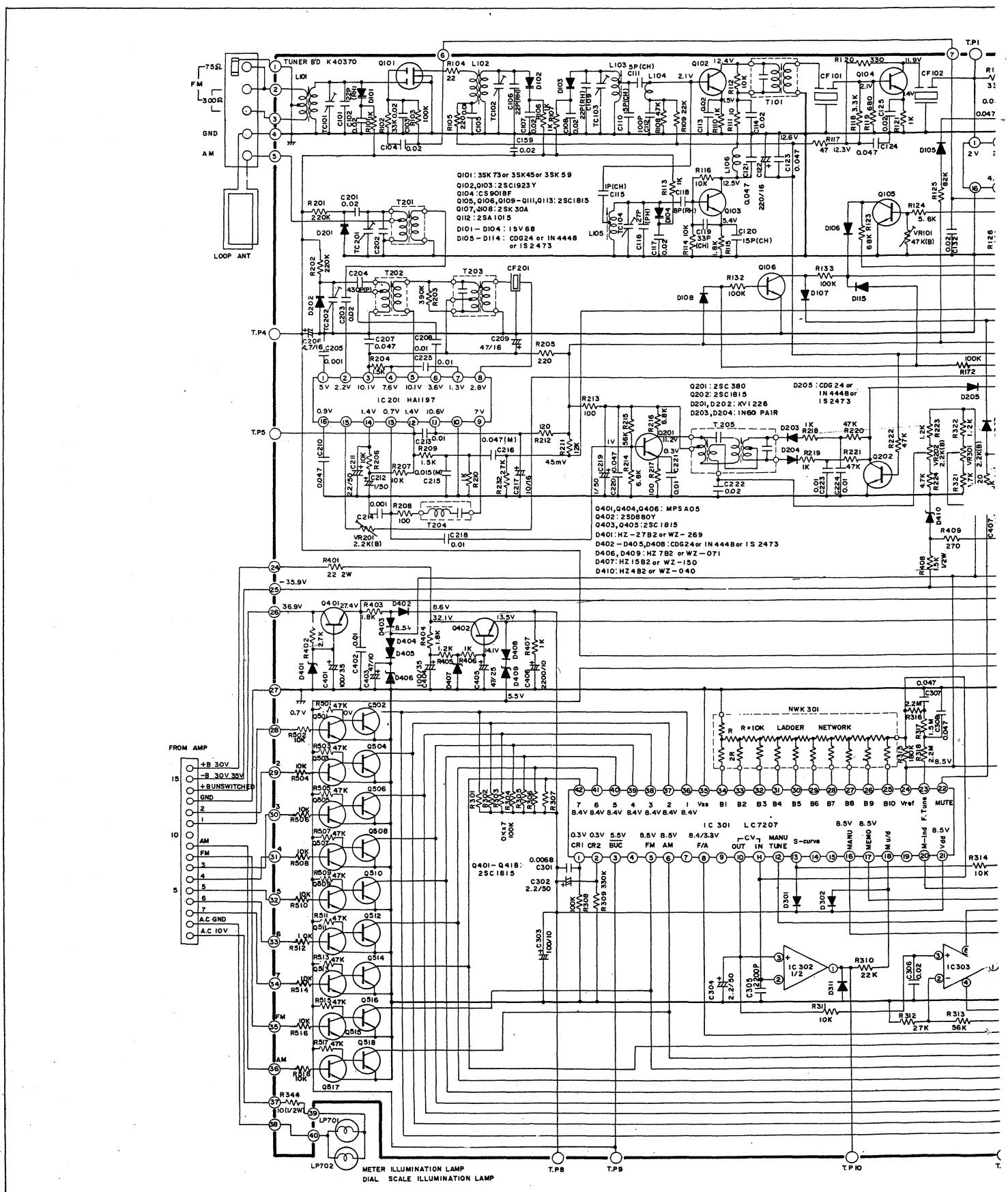


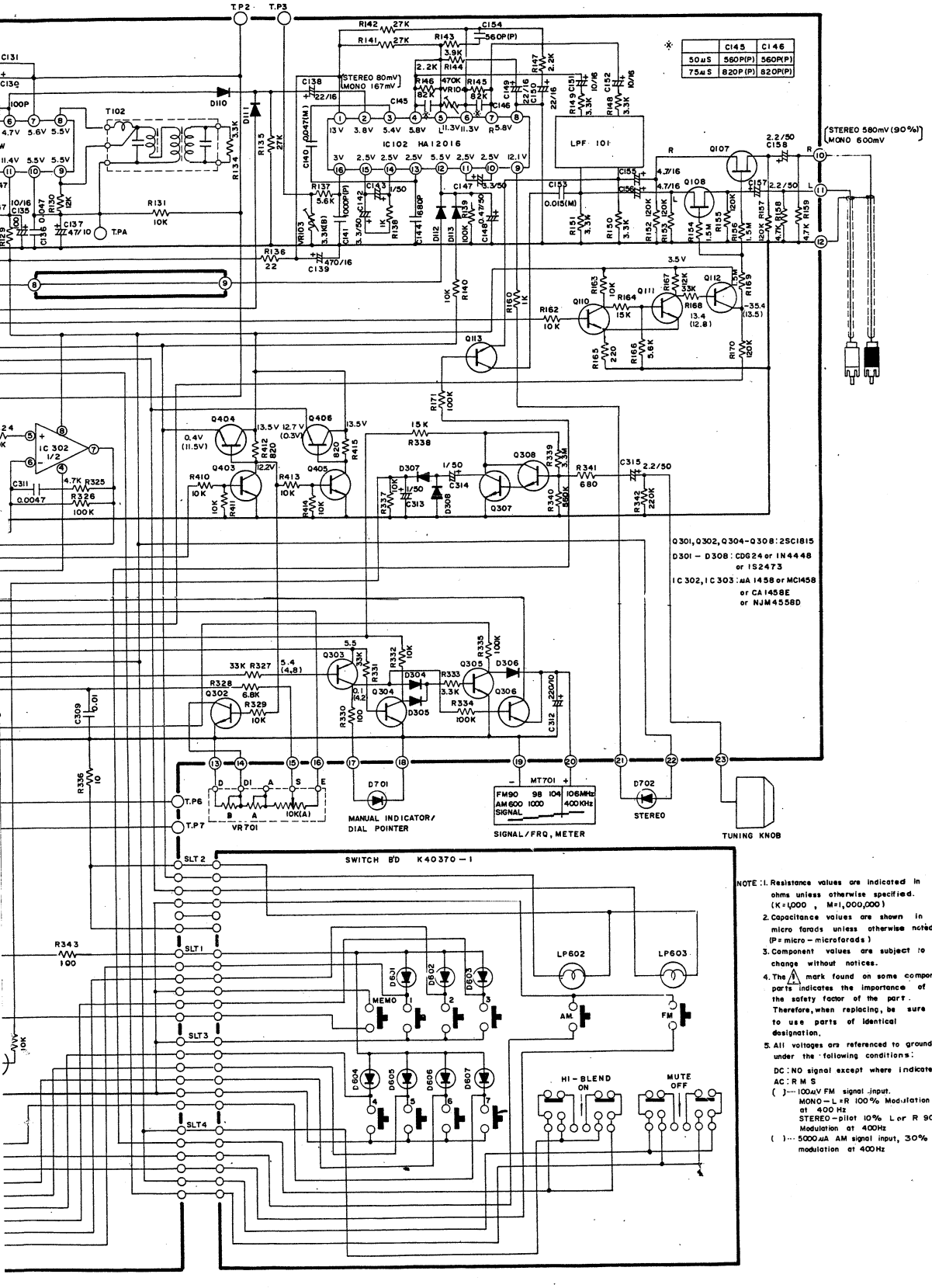
PARTS LIST ACCORDING TO EXPLODED VIEW

NO.	DESCRIPTION	PARTS NO.	Q'TY
1	FRONT PANEL	PC-61112	1
	(For Special Customer, VISONIK)	(PC-61112-02)	(1)
2	END CAP L	PE-71113-01	1
3	END CAP R	PE-71113-02	1
4	DIAL WINDOW	PE-63142	1
	(For Special Customer, VISONIK)	(PE-63141-02)	(1)
5	METER WINDOW	PE-63140A	1
6	KNOB BEZEL	PD-72281A-01	1
	(For Special Customer, VISONIK)	(PD-72281A-02)	(1)
7	FILTER 1	PE-63139-01	1
8	FILTER 2	PE-63139-02	1
9	FILTER 3	PE-63139-03	1
10	FILTER 4	PE-63139-04	1
11	FILTER 5	PE-63139-05	1
12	FILTER 6	PE-63139-06	1
13	FILTER 7	PE-63139-07	1
14	FILTER AM	PE-63139-08	1
	FILTER MW	PE-63139-34	1
15	FILTER FM	PE-63139-09	1
	FITER UKW	PE-63139-35	1
16	FILTER MEMO	PE-63139-10	1
	(For Special Customer, VISONIK)	(PE-63139-30)	(1)
17	FILTER MUTE	PE-63139-11	1
	FILTER MUTING AUS/MONO	PE-63139-36	1
18	FILTER MPX	PE-63139-13	1
	FILTER RAUSCH	PE-63139-37	1
19	KNOB BASE A	PE-72279	10
20	KNOB BASE B	PE-72280	2
21	KNOB SPRING	PE-66074	10
22	KNOB STOPPER	PE-68678-02	1
23	KEY B'D HOLDER	PC-69119-01	1
24	TACT SW	PE-90289	10
25	PUSH SW	PE-90264	2
26	LAMP	PE-64098	2
27	TUNING KNOB	PE-72278	1
28	DIAL PLATE	PC-63143A-01	1
29	DIAL SCALE	PD-63141-01	1
30	SIDE COVER L/R	PE-71211	2
31	METER	AD-75049-01	1
	(For Special Customer, VISONIK)	(AD-75049-13)	(1)
32	COLOR CAP	PE-71087-01	2
33	BACK CHASSIS	PC-62405-01	1
	(For Special Customer, VISONIK)	(PC-62405-02)	(1)
34	STEEL CABINET	PC-74337	1
35	KNOB LENS	PE-63137	12
36	LED SPACING	PE-71213	7
37	FRONT CHASSIS	PC-62403	1
38	DIAL POINTER	PD-66076	1

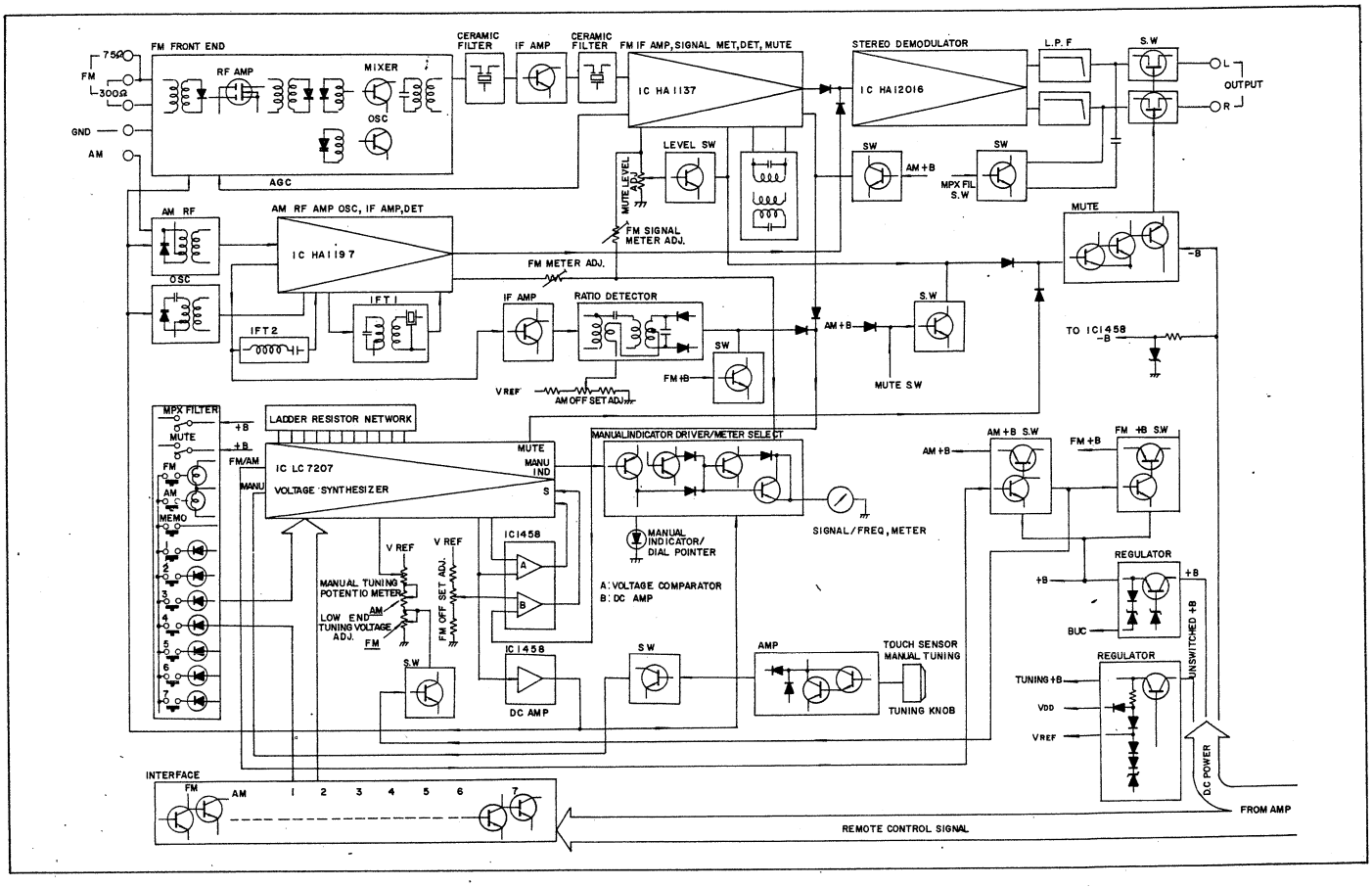
NO.	DESCRIPTION	PARTS NO.	Q'TY
39	DIAL LAMP	PE-64069-06	1
40	LAMP HOLDER	PE-69117	1
41	LIGHT FENCE	PE-68677	1
42	STRIP FELT	PE-72307	1
43	METER LAMP	PE-64069-02	1
44	LAMP BUSHING	PE-71210	1
45	LAMP BRACKET	PE-68647	1
46	TUNING SHAFT ASS'Y	AE-65050	1
47	WRAPPING TERMINAL	PE-77080	1
48	SHAFT INSULATION	PE-71076	1
49	FIBER WASHER	PE-68465	1
50	MAIN CHASSIS	PC-62404A	1
51	ROLLER BRACKET A	PE-68645	1
52	ROLLER BRACKET B	PE-68646	1
53	ROLLER	PE-66039	4
54	PIVOT	PE-70032	4
55	TUNING VR	PE-15108	1
56	VR BRACKET	PE-68644 A	1
57	DIAL PULLEY	PD-66075 A	1
58	SHIELD FENCE A	PE-68494	1
59	SHIELD FENCE B	PE-68495	1
60	HEAT SINK	PE-73060-04	1
61	WIRE HOLDER	PE-69121	1
62	ANT TERMINAL	PE-76013	1
	(For Special Customer, VISONIK)	(PE-76029)	(1)
63	ANT HOLDER	PE-69116	1
64	LOOP ANT	PE-67139	1
65	CORD STOPPER	PD-71050	1
66	CORD STOPPER	PD-71008 A	1
67	BOTTOM COVER	PD-62402	1
68	RUBBER FOOT	PE-71227	4
69	PATCH CORD	PE-67153-02	1
70	HOUSING ASS'Y	AE-95108-02	1
71	SCREW #3BTC3×6		26
72	SCREW BTC3×8		6
73	SCREW #3PTC3×6B		2
74	SCREW PTC3×8B		2
75	SCREW BM2.6×4		3
76	SCREW #3FTC3×6		3
77	SCREW WPTC3×6		10
78	SPRING WASHER ϕ3		1
79	SCREW #3WPTC3×8W		4
80	COAXIAL ANT CONNECTOR	PE-95053	1
	(For Special Customer, VISONIK)		
81	ANT SHIELD FENCE	PE-68732	1
	(For Special Customer, VISONIK)		
82	COLOR CAP	PE-71087-02	2

SCHEMATIC DIAGRAM

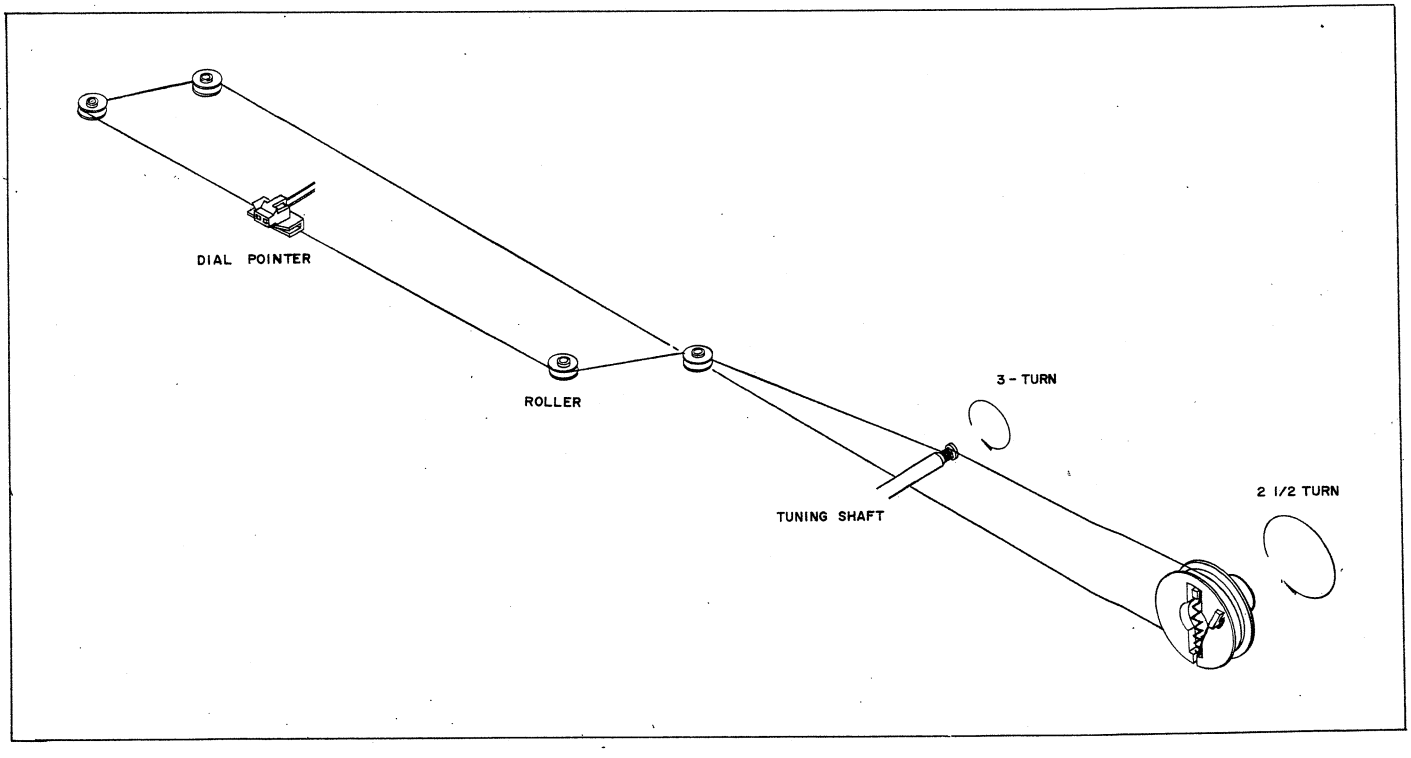



T.P2
T.P3
R142 27K
R141 27K
R143 3.9K
C154 560P(P)
2.2K R144
R146 470K VR104 R145 82K
C145
C146
C147
C153 0.015(M)
C155
C156
C157
C158 2.2/50
C159
C160
C161
C162
C163
C164
C165
C166
C167
C168
C169
C170
C171
C172
C173
C174
C175
C176
C177
C178
C179
C180
C181
C182
C183
C184
C185
C186
C187
C188
C189
C190
C191
C192
C193
C194
C195
C196
C197
C198

BLOCK DIAGRAM



DIAL CORD STRINGING



MW/LW/FM Stereo Tuner

TD10L

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ELECTRICAL ADJUSTMENT PROCEDURE

NOTE: THE OTHER ADJUSTMENT EXCEPT FOR AM ALIGNMENT, REFER TO THAT OF TD10 MODEL.

1. **AM ALIGNMENT**

A) MW FREQUENCY COVERAGE,TRACKING AND SENSITIVITY ALIGNMENT.

1. Set the Selector switch to MW.
2. Set the AM Signal Generator as shown Fig-1.
3. Set the AM SG to 400Hz,30% Mod.

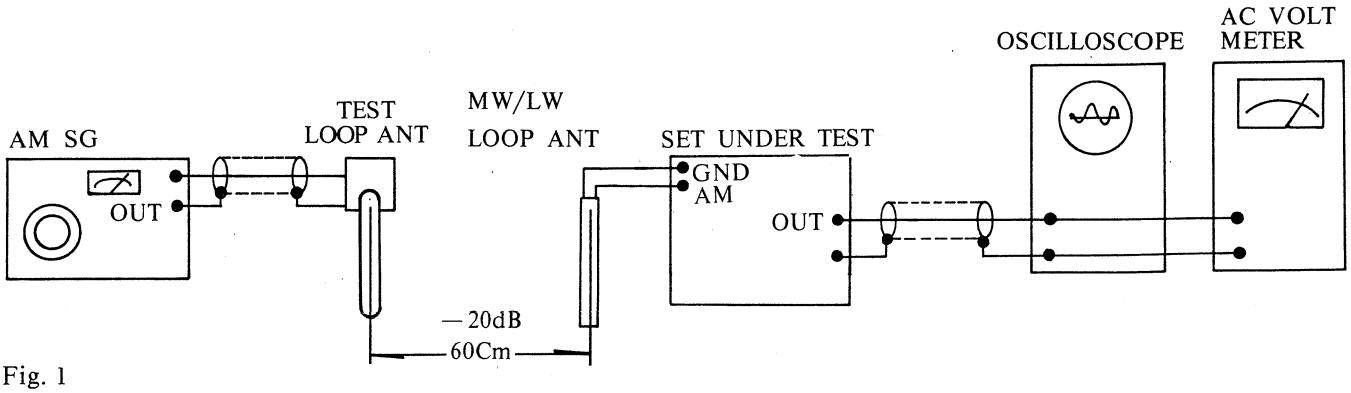


Fig. 1

* SG Output Level as low as possible.

Step	SG Frequency	Dial Indication of Set Under Test	Adjust	Indication	Notice
1	525KHz	Low End	MW OSC Coil T202	Maximum Output Reading	MW Coverage
2	1650KHz	High End	Trimmer TC202		
3	Repeat step 1and 2 until no further improvement is noticed.				
4	600KHz	600KHz	MW Ant Coil T201	Maximum Output Reading	Tracking and Sensitivity
5	1400KHz	1400KHz	Trimmer TC201		
6	Repeat step 4and 5 until no further improvement is noticed.				
7	459KHz	Lowest position	IFT T203, T204	Maximum Output Reading	IF Adj.

B) LW FREQUENCY COVERAGE TRACKING AND SENSITIVITY ALIGNMENT.

1. Set the Selcctor switch to LW.
2. Set the AM Signal Generator as shown Fig-2.
3. Set the AM SG to 400Hz,30% Mod.

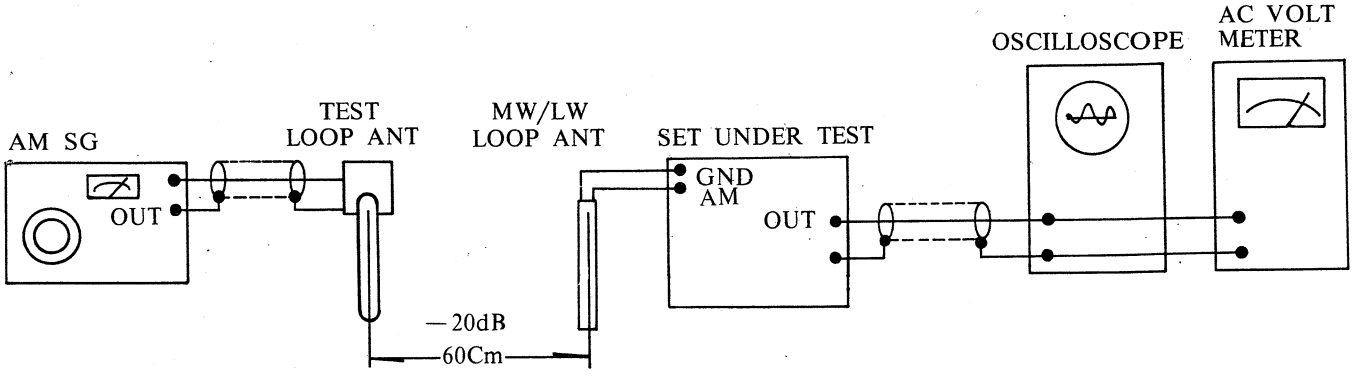


Fig. 2

* SG Output Level as low as Possible.

Step	SG Frequency	Dial Indication of Set Under Test	Adjust	Indication	Notice
1	150KHz	Low End	LW OSC Coil T207L	Maximum Output Reading	LW Coverage
2	350KHz	High End	Trimmer TC204L		
3	Repeat step 1and 2 until no further improvement is noticed.				
4	160KHz	160KHz	LW Ant Coil T206L	Maximum Output Reading	Tracking and Sensitivity
5	340KHz	340KHz	Trimmer TC203L		
6	Repeat step 4and 5 until no further improvement is noticed.				

C) MW S CURVE DETECTOR AND OFF SET ALIGNMENT.

1. Set the Selector switch to MW.
2. Set the AM Signal Generator and AM Genescope as shown Fig-3.

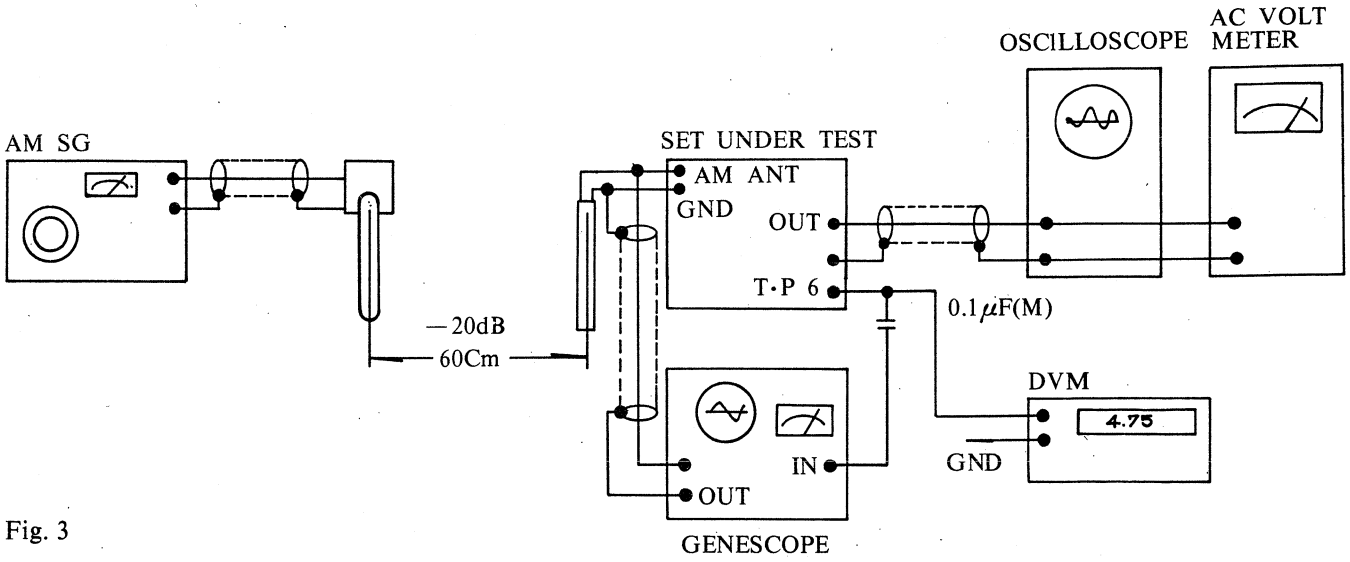
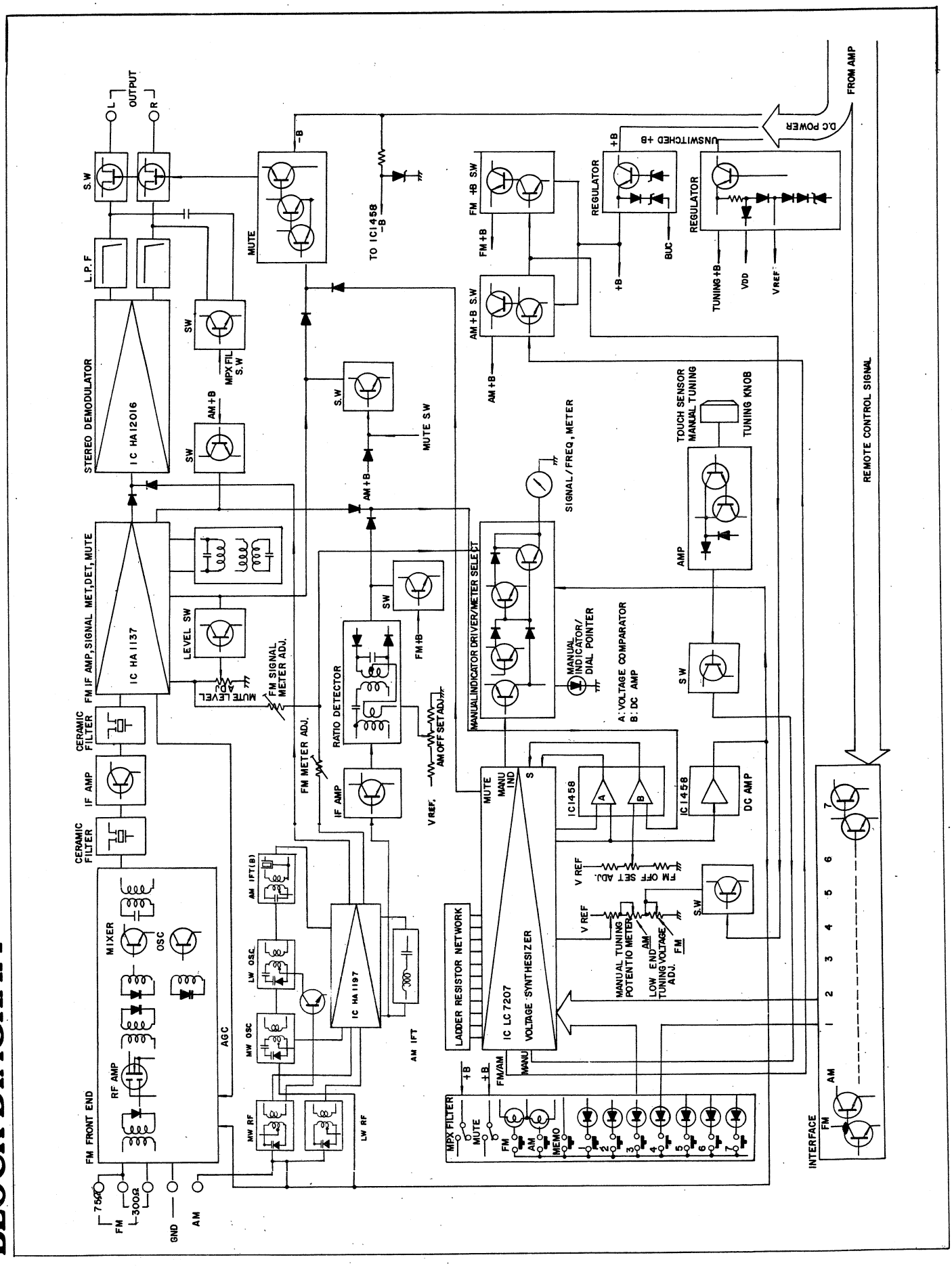


Fig. 3

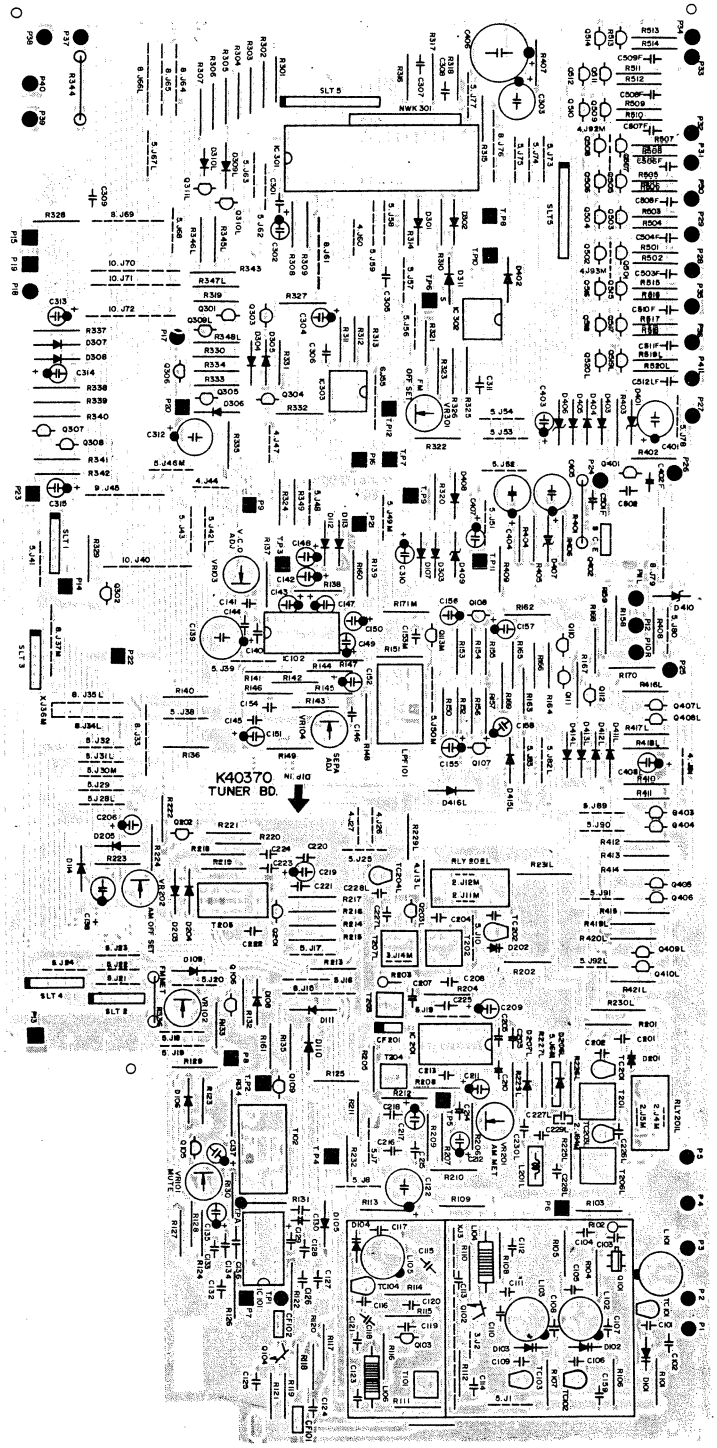
Step	SG Frequency	SG Output Level	Dial Indication of Set Under Test	Adjust	Indication
1	—	No Input Signal	600KHz	White Core of T205	Maximum Waveform on the Genescope
2	—	No Input Signal	600KHz	Blue Core of T205	Balance Waveform on the Genescope
3	—	No Input Signal	600KHz	VR 202	4.75±0.1V on the DVM
4	600KHz	400Hz 30% Mod. 60dB Input	600KHz	Tuning Knob	Maximum Output Level
5		No Mod. 60dB Input		Blue Core of T205	4.75±0.1V on the DVM
6	Repeat step 3, 4 and 5 until no further improvement is noticed.				

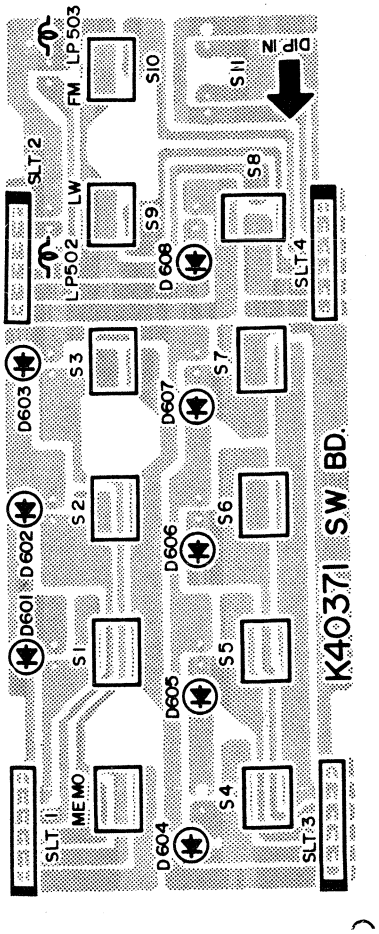
NOTE 1. Genescope should be turned off for step 3～step 6 adjustment.
2. The output level of Genescope should be as low as possible when adjusting step 1 and step 2.

BLOCK DIAGRAM



TOP VIEW OF P.C. BOARDS





PARTS LIST

K40370 TUNER BOARD

Ref No.	Parts No.	Description	Q'ty
IC101		IC HA1137W	1
IC102		IC HA12016	1
IC201		IC HA1197	1
IC301		IC LC7207	1
IC302, IC303		IC uA1458/MC1458/CA1458E	2
Q101		FET 3SK73GR/ 35K59/35K45	1
Q107, Q108		FET 2SK30A Y/GR	2
Q102, Q103		Transistor KTC 1923Y	2
Q104		Transistor CS9018F	1
Q105, Q106		Transistor 2SC1815Y/GR	41
Q109, Q110			
Q111, Q113			
Q202, Q301			
Q302, Q303			
Q305, Q306			
Q307, Q308			
Q403, Q405			
Q501, Q502			
Q503, Q504			
Q505, Q506			
Q507, Q508			
Q509, Q510			
Q511, Q512			
Q513, Q514			
Q515, Q516			
Q517, Q518			
Q309L			
Q310L			
Q311L			
Q408L			
Q409L			
Q519L			
Q520L			
Q401, Q404		Transistor MPS A05	5
Q406, Q407			
Q410L			
Q112, Q303		Transistor 2SA1015Y/GR	2
Q201		Transistor 2SC380Y/GR	1
Q402		Transistor 2SD880Y/GR	1
D101, D102		Diode Varactor 1SV68	4
D103, D104			
D201, D202		Diode Varactor KV1226E/F	2
D105, D106		Diode CDG24/1N4448TR/1S2473	36
D107, D108			
D109, D110			
D111, D112			
D113, D114			
D115, D205			
D301, D302			
D303, D304			
D305, D306			
D307, D308			
D311, D402			
D403, D404			

Ref No.	Parts No.	Description	Q'ty
D405, D408			
D411, D412			
D413, D414			
D415, D416			
D309L			
D310L			
D206L			
D207L			
D203, D204		Diode 1N60(Pair)	2
D401		Diode Zener HZ-27B2L/WZ-270	1
D406, D409		Diode Zener HZ-7B2L/WZ-071	2
D407		Diode Zener HZ15B2/WZ-150	1
D410		Diode Zener HZ-4B2/WZ-040	1
D601, D602		LED SLR-54URC	7
D603, D604			
D605, D606			
D607			
D701		LED SLP-154B	1
D702		LED TLR-206	1
CF101	#31008	Filter Ceramic 10.7MA8-M	2
CF102			
CF201	#31014B	Filter Ceramic CFM2-450BL	1
LPF101	#31019	MPX Filter 208BLRB-3541N	1
NWK301		Ladder Resistor Network EXB-LD10103G	1
TC101		Trimmer Capacitor TZ03-110R	4
TC102			
TC103			
TC104			
TC201		Trimmer Capacitor TZ03-R200F	4
TC202			
TC203			
TC204			
L101	#30096	Coil FM ANT	1
L102	#30116	Coil FM RF A	1
L103	#30117	Coil FM RF B	1
L105	#30118	Coil FM OSC	1
L104, L106	#30057	Coil Inductor 2.2uH	2
T101	#30119	Coil FM IFT	1
T102	#30141	Coil Quad Det. 12HF	1
T201	#30158	Coil MWANT 25A-1170-01	1
T206L	#30159	Coil LW ANT 25A-1174-03	1
T202	#30140	Coil MW OSC	1
T207L	#30153	Coil LW OSC	1
T203	#30143	Coil AM IFT(B)	1
T204	#30144	Coil AM IFT	1
T205	#30160	Coil AM Ratio Det. 10EW	1
VR101	#16005	Semifixed Resistor 10K ohm	1
VR102	#16003	Semifixed Resistor 22K ohm	1
VR103	#16013	Semifixed Resistor 3.3K ohm	1
VR104	#16010	Semifixed Resistor 470K ohm	1
VR201	#16004	Semifixed Resistor 2.2K ohm	3
VR202			
VR301			
LP602	PE-64098	Lamp Indicator	2

PARTS LIST

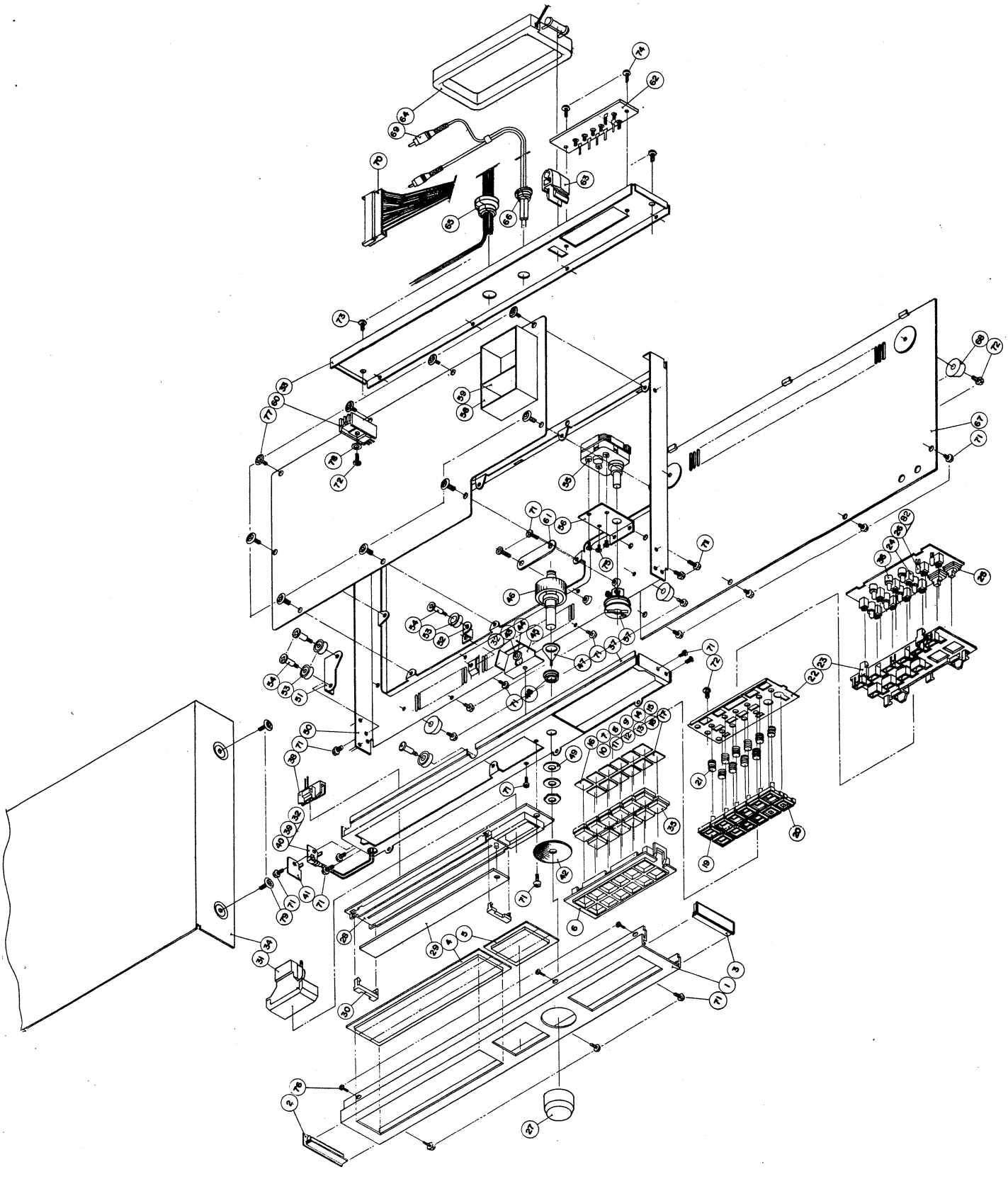
Ref No.	Parts No.	Description	Q'ty
LP603			
LP701	PE-64069-06	Lamp Dial Scale	1
LP702	PE-64069-02	Lamp Meter	1
VR701	PE-15108	Tuning VR 4EOTME0201	1
R401	60M220-2J	Resistor Metal Oxide 22ohm 2W(J)	1
R344	60M100-½ J	Resistor Metal Oxide 10ohm ½ W(J)	1
R408	60M152-½ J	Resistor Metal Oxide 1.5K ohm ½ W(J)	1

PARTS LIST ACCORDING TO EXPLODED VIEW

NO.	DESCRIPTION	PARTS NO.	Q'TY
1	FRONT PANEL	PC-61112-01	1
2	END CAP L	PE-71113-01	1
3	END CAP R	PE-71113-02	1
4	DIAL WINDOW	PE-63142-01	1
5	METER WINDOW	PE-63140A-01	1
6	KNOB BEZEL	PD-72281A-01	1
7	FILTER 1	PE-63139-01	1
8	FILTER 2	PE-63139-02	1
9	FILTER 3	PE-63139-03	1
10	FILTER 4	PE-63139-04	1
11	FILTER 5	PE-63139-05	1
12	FILTER 6	PE-63139-06	1
13	FILTER 7	PE-63139-07	1
14	FILTER MW	PE-63139-14	1
15	FILTER FM	PE-63139-09	1
16	FILTER MEMO	PE-63139-10	1
17	FILTER MUTE	PE-63139-11	1
18	FILTER LW	PE-63139-12	1
19	KNOB BASE A	PE-72279	10
20	KNOB BASE B	PE-72280A	2
21	KNOB SPRING	PE-66074	10
22	KNOB STOPPER	PE-68678-01	1
23	KEY B'D HOLDER	PC-69119-02	1
24	TACT SW	PE 90289	10
25	PUSH SW	PE-90264	2
26	LAMP	PE-64098	2
27	TUNING KNOB	PE-72278	1
28	DIAL PLATE	PC-63143A-01	1
29	DIAL SCALE	PD-63141-03	1
30	SIDE COVER L/R	PE-71211	2
31	METER	AD-75049-04	1
32	COLOR CAP	PE-71087-01	2
33	BACK CHASSIS	PC-62405-02	1
34	STEEL CABINET	PC-74337	1
35	KNOB LENS	PE-63137	12
36	LED SPACING	PE-71213	7
37	FRONT CHASSIS	PC-62403	1
38	DIAL POINTER	PD-66076	1
39	DIAL LAMP	PE-64069-06	1
40	LAMP HOLDER	PE-69117	1
41	LIGHT FENCE	PE-68677	1

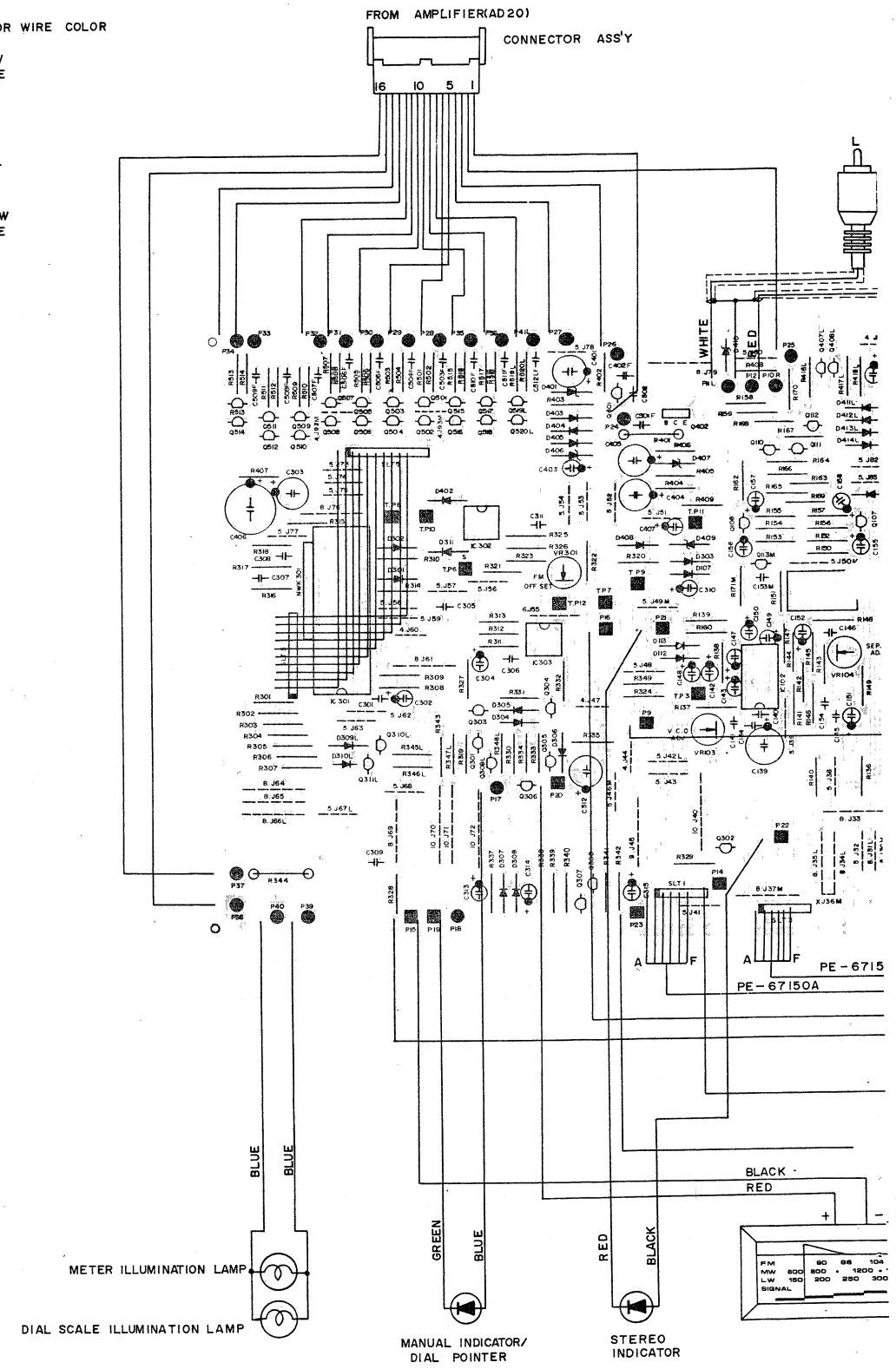
NO.	DESCRIPTION	PARTS NO.	Q'TY
42	STRIP FELT	PE-72307	1
43	METER LAMP	PE-64069-02	1
44	LAMP BUSHING	PE-71210	1
45	LAMP BRACKET	PE-68647	1
46	TUNING SHAFT ASS'Y	AE-65050	1
47	WRAPPING TERMINAL	PE-77080	1
48	SHAFT INSULATION	PE-71076	1
49	FIBER WASHER	PE-68465	1
50	MAIN CHASSIS	PC-62404A	1
51	ROLLER BRACKET A	PE-68645	1
52	ROLLER BRACKET B	PE-68646	1
53	ROLLER	PE-66039	4
54	PIVOT	PE-70032	4
55	TUNING VR	PE-15108	1
56	VR BRACKET	PE-68644A	1
57	DIAL PULLEY	PD-66075A	1
58	SHIELD FENCE A	PE-68494	1
59	SHIELD FENCE B	PE-68495	1
60	HEAT SINK	PE-73060-04	1
61	WIRE HOLDER	PE-69121	1
62	ANT TERMINAL	PE-76013	1
63	ANT HOLDER	PE-69116	1
64	LOOP ANT	PE-67139	1
65	CORD STOPPER	PD-71050	1
66	CORD STOPPER	PD-71008A	1
67	BOTTOM COVER	PD-62402A	1
68	RUBBER FOOT	PE-71227	4
69	PATCH CORD	PE-67153-02	1
70	HOUSING ASS'Y	AE-95108-02	1
71	SCREW #3 BTC 3x6		26
72	SCREW BTC 3x8		6
73	SCREW #3 PTC 3x6B		2
74	SCREW PTC 3x8B		2
75	SCREW BM2.6x4		3
76	SCREW #3 FTC 3x6		3
77	SCREW WPTC 3x6		10
78	SPRING WASHER Ø3		1
79	SCREW #3 WPTC 3x8W		4
80	COAXIAL ANT CONNECTOR	PE-95053	1
81	ANT SHIELD FENCE	PE-68732	1
82	COLOR CAP	PE-71087-02	2

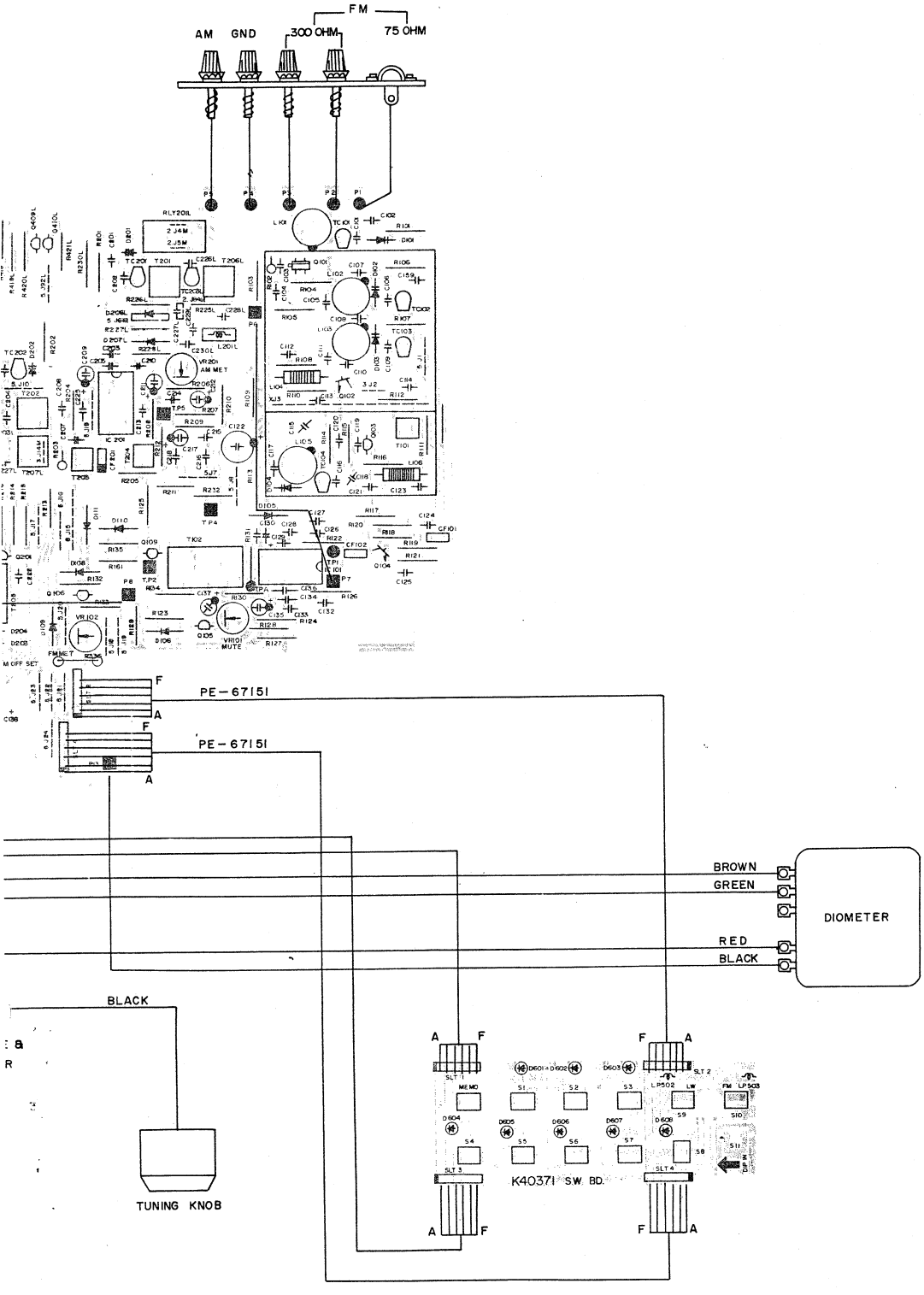
EXPLODED VIEW OF CABINET AND CHASSIS



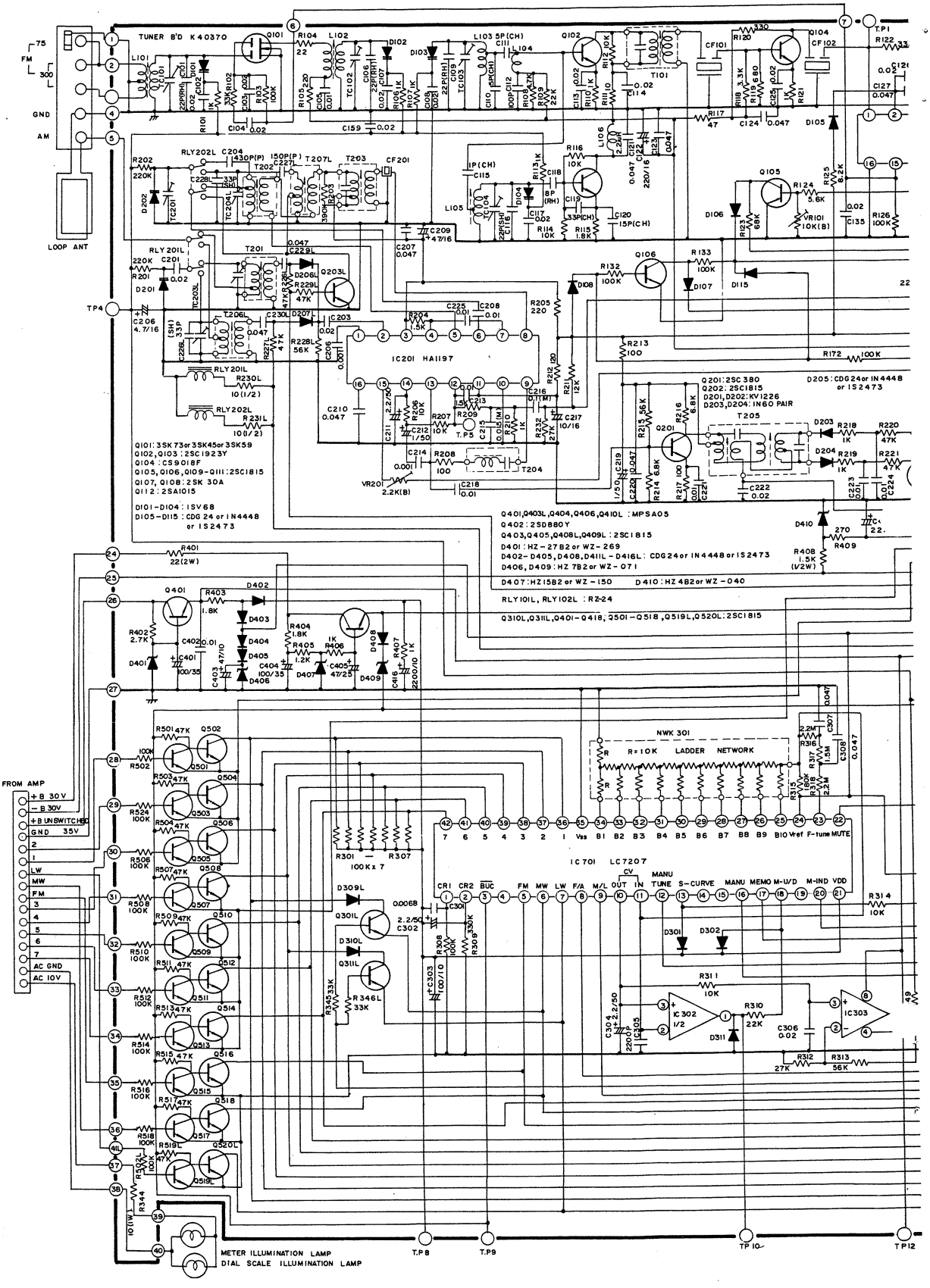
POINT TO POINT WIRING DIAGRAM

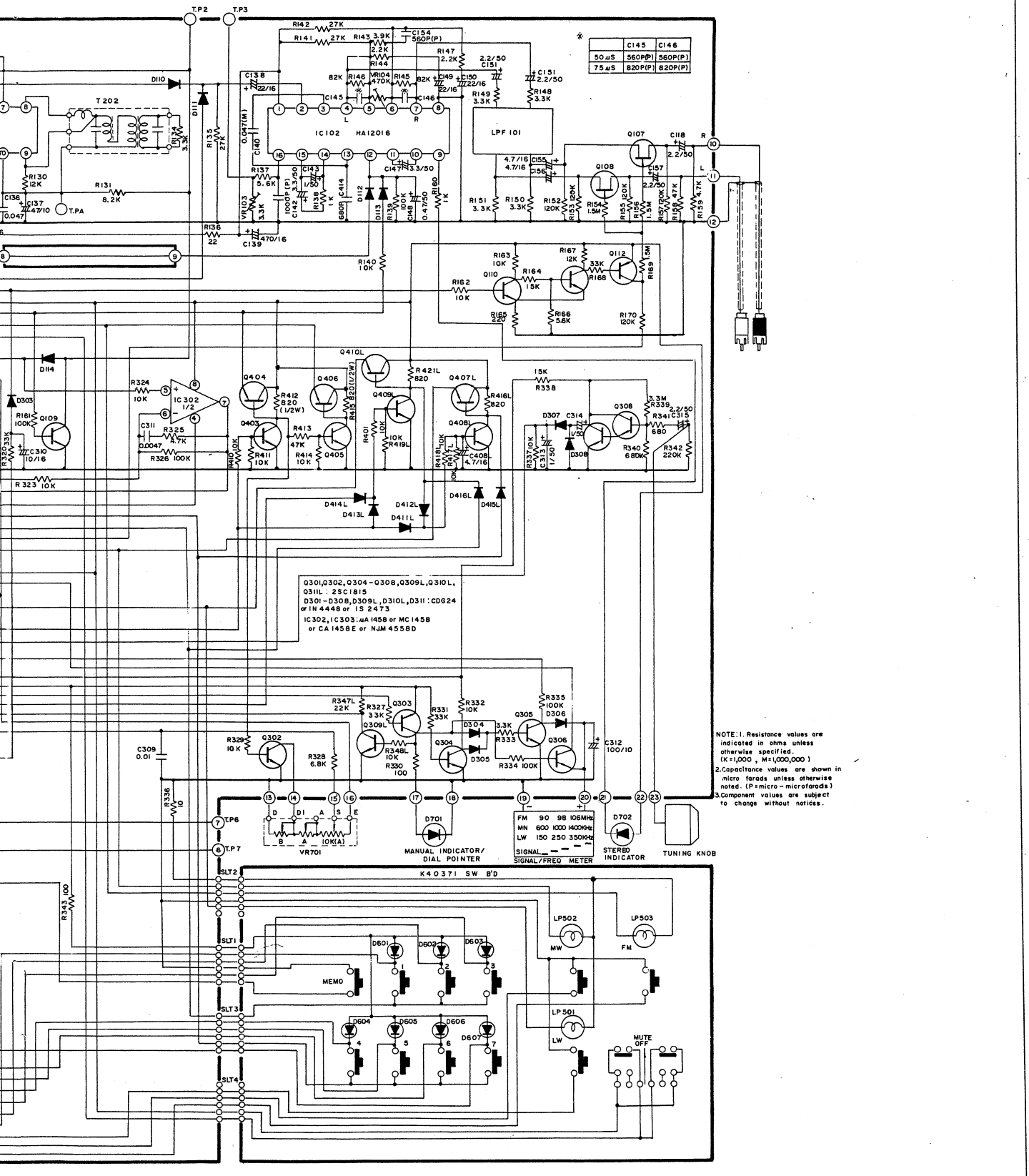
※ CONNECTOR WIRE COLOR
1. BLUE
2. YELLOW
3. ORANGE
4. RED
5. BROWN
6. BLACK
7. WHITE
8. GRAY
9. VIOLET
10. BLUE
11. GREEN
12. YELLOW
13. ORANGE
14. RED
15. BROWN
16. BLACK




FM
AM
GND
300 OHM
75 OHM
PE-67151
PE-67151
BROWN
GREEN
RED
BLACK
DIOMETER
BLACK
TUNING KNOB
K40371 S.W. BD.

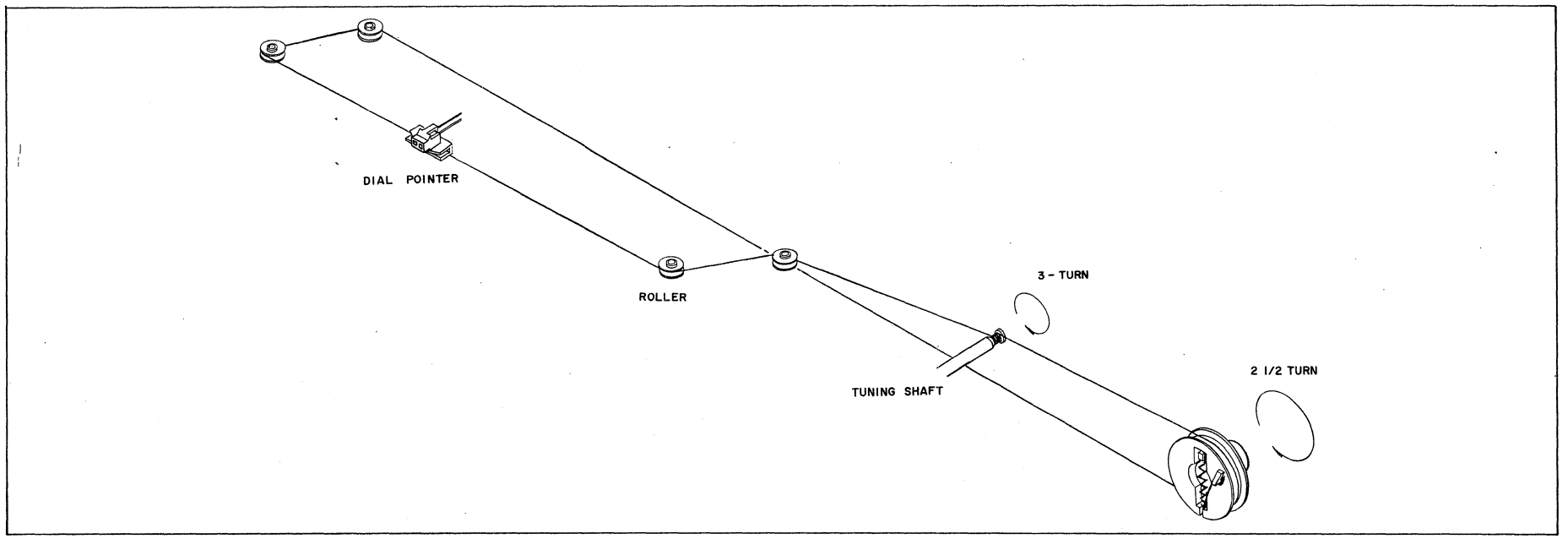
SCHEMATIC DIAGRAM





	C145	C146
50 μS	560P(P)	560P(P)
75 μS	820P(P)	820P(P)

DIAL CORD STRINGING



Integrated Stereo Amplifier & Commander

AD20 RD50/L

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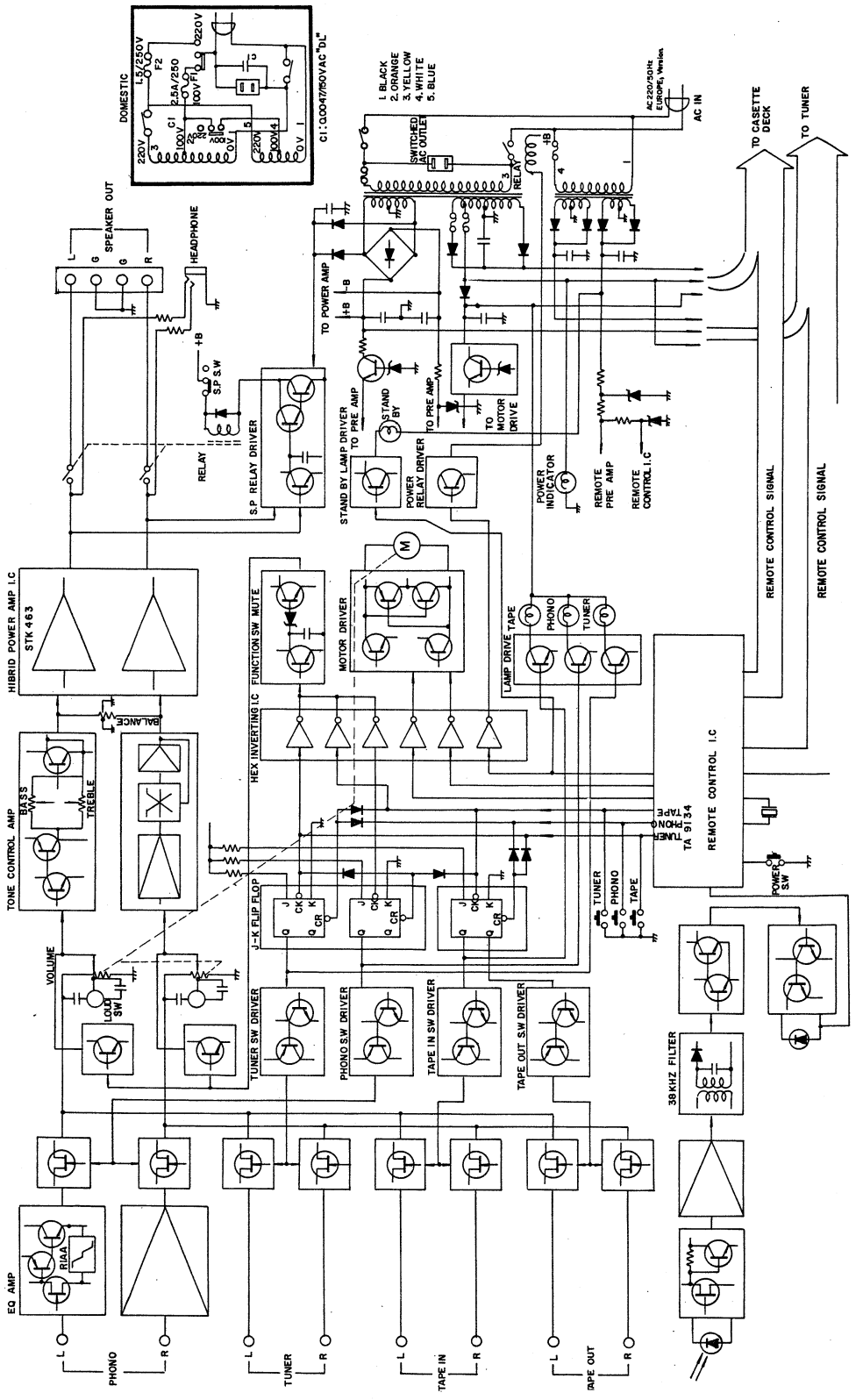
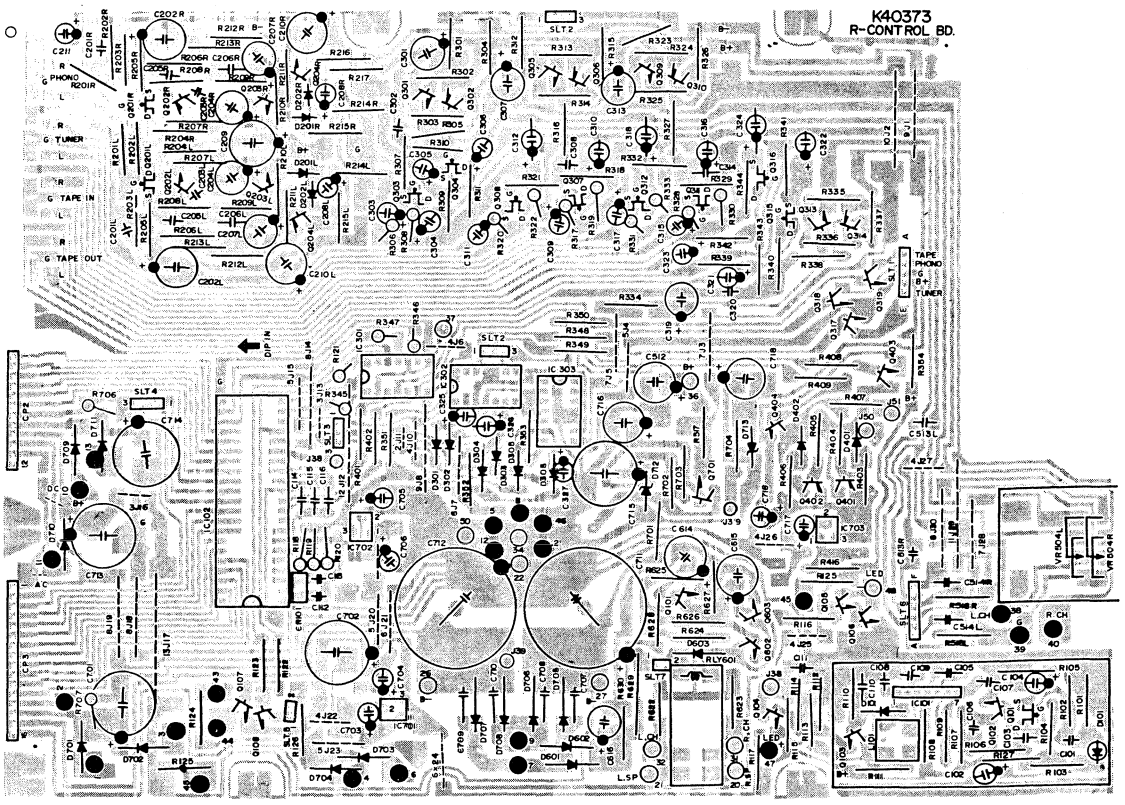
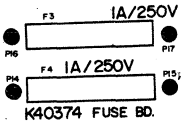
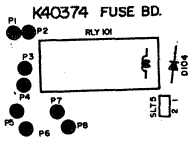
BLOCK DIAGRAM

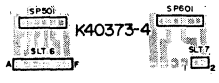


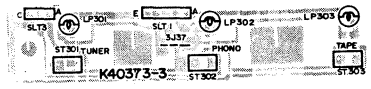
TOP VIEW OF P.C. BOARDS

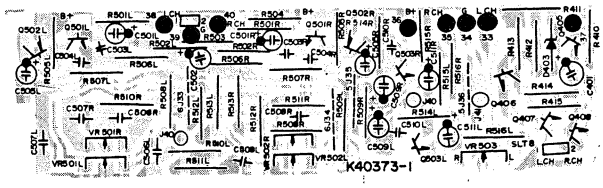


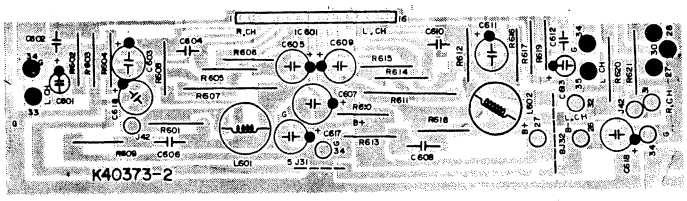












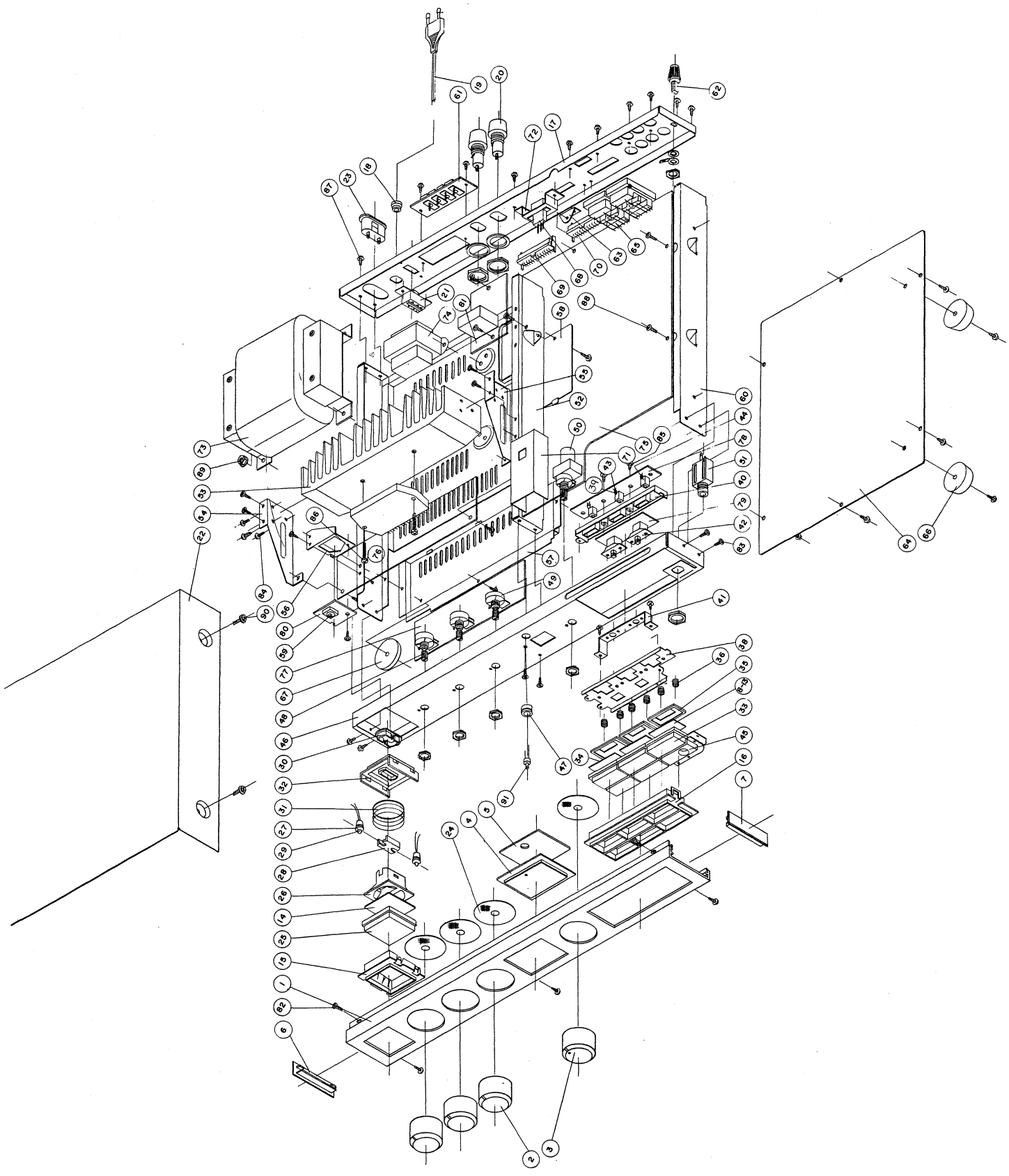
PARTS LIST

K40373A R-CONTROL BOARD

Ref No.	Parts No.	Description	Q'ty
IC101		IC TA7061AP	1
IC102		IC TC9134	1
IC301		IC MC14069	1
IC302,IC303		IC SN74LS73	2
Q101		FET 2SK117 GR/BL	3
Q201L/R			
Q303,Q304		FET 2SK 30AT Y/GR	8
Q307,Q308			
Q311,Q312			
Q315,Q316			
Q102,Q103		Transistor 2SC1815 GR/BL	18
Q104,Q105			
Q106,Q107			
Q108,Q301			
Q305,Q309			
Q313,Q317			
Q318,Q319			
Q403,Q404			
Q601,Q602			
Q302,Q306		Transistor 2SA1015 GR/BL	4
Q310,Q314			
Q203L/R		Transistor 2SC1681BL/2SC2240BL	2
Q202L/R		Transistor 2SA970BL/2SA841BL	4
Q204L/R			
Q401,Q402		Transistor MPS A55	2
Q603,Q702		Transistor MPS A05	2
Q701		Transistor MPS9400L	1
D101		Diode H3MLR(Photo)	1
D102,D301		Diode 1N60(Pair)	7
D302,D303			
D304,D305			
D306			
D201L/R		Diode CDG24/MA150/1N4448	6
D202L/R			
D401,D402			
D705,D706		Diode 1N5172(2A100V)	4
D707,D708			
D103		Diode LED TLR-206	1
D601,D602		Diode 1N4002(1A 100V)	10
D603,D701			
D702,D703			
D704,D709			
D710,D711			
D715		Diode WZ090(9V Zener)	1
D716		Diode WZ050(5V Zener)	1
D712,D713		Diode 88C20/WZ197(20V Zener)	2
RLY601		Relay VB-12MB	1
L101	PE-30161	Coil 38KHz Filter	1
CR101	CSB455E	Ceramic Resonator(455KHz)	1
R354,R701	60M101-1J	Resistor Metal Oxide 100 ohm 1W(J)	3
R710			
R704	60M821-1J	Resistor Metal Oxide 820 ohm 1W(J)	1
R708	60M330-1J	Resistor Metal Oxide 33 ohm 1W(J)	1
R126	60M560-1J	Resistor Metal Oxide 56 ohm 1W(J)	1
R124,R125	60M151-1J	Resistor Metal Oxide 150 ohm 1W(J)	2
R407	60M681-1J	Resistor Metal Oxide 680 ohm 1W(J)	1
R629	60M471-2J	Resistor Metal Oxide 470 ohm 2W(J)	1

Ref No.	Parts' No.	Description	Q'ty
C711,C712	ECE-T35R472SL	Capacitor Elect 4700uF/35WV	2
K40373-1 PRE BOARD			
Q405,Q406		Transistor 2SC1815GR/BL	4
Q407,Q408			
Q501L/R		Transistor MPS 9633C	4
Q503L/R			
Q502L/R		Transistor 2SA970BL/2SA841BL	2
D403		Diode WZ061(6.1V Zener)	1
K40373-2 MAIN BOARD			
IC601		IC STK463(Power Hybrid)	1
L601,L602	PE-30045	Coil Inductor 2.7uH	2
R607,R611	60W278-2K	Cement Type Resistor 0.27 ohm 2W(K)	2
R601,R618	60M339-½J	Resistor Metal Oxide 3.3 ohm ½ W(J)	2
R609,R613	60M100-1J	Resistor Metal Oxide 10 ohm 1W(J)	2
R610	60M101-1J	Resistor Metal Oxide 100 ohm 1W(J)	1
R620,R621	60M271-2J	Resistor Metal Oxide 270 ohm 2W(J)	2
K40374 FUSE BOARD			
D104		Diode 1N4002(1A 100V)	1
RLY101		Relay VB-12MB	1
F3	36BST1-250	Secondary Fuse F 1A/250V(20mm) For EU, BS, SAA	1
	36AST1-250	Secondary Fuse STD 1A/250V(31.8mm) For UL, CSA	1
F4	36BST2-250	Secondary Fuse F 2A/250V(20mm) For EU, BS, SAA	1
	36AST2-250	Secondary Fuse STD 2A/250V(31.8mm) For UL, CSA	1
C700		Capacitor Ceramic 0.0047uF * Type Designation According to Safety Regulation	
	ECK-DHS472MD	(a)"HS" Type For EU (400VAC) (For SEMKO MODEL ONLY)	1 (2)
	ECK-DGS472MD	(b) "GS" Type For BS, SAA(400VAC)	1
	ECK-DDL472ZE	(c) "DL" Type For UL(150VAC)	1
	ECK-DEL472ZE	(d) "EL" Type For CSA(125VAC)	1
CHASSIS MTG			
	PD-35161	Power Transformer For EU, BS, SAA	1
	PD-35169		1
	PD-35160	Power Transformer For UL, CSA	1
	PD-35171		1
F1	36BSB1-250	Primary Fuse T 1A/250V(20mm) For EU, BS, SAA	1
	36AST2-250	Primary Fuse STD 2A/250V(31.8mm) For UL, CSA	1
F2	36BSB0.05-250	Primary Fuse T 50mA/250V(20mm) For EU, BS, SAA	1
	36ASB1/16-250	Primary Fuse Slow Blow 1/16 A/250V (31.8mm) For UL, CSA	1

EXPLODED VIEW OF CABINET AND CHASSIS

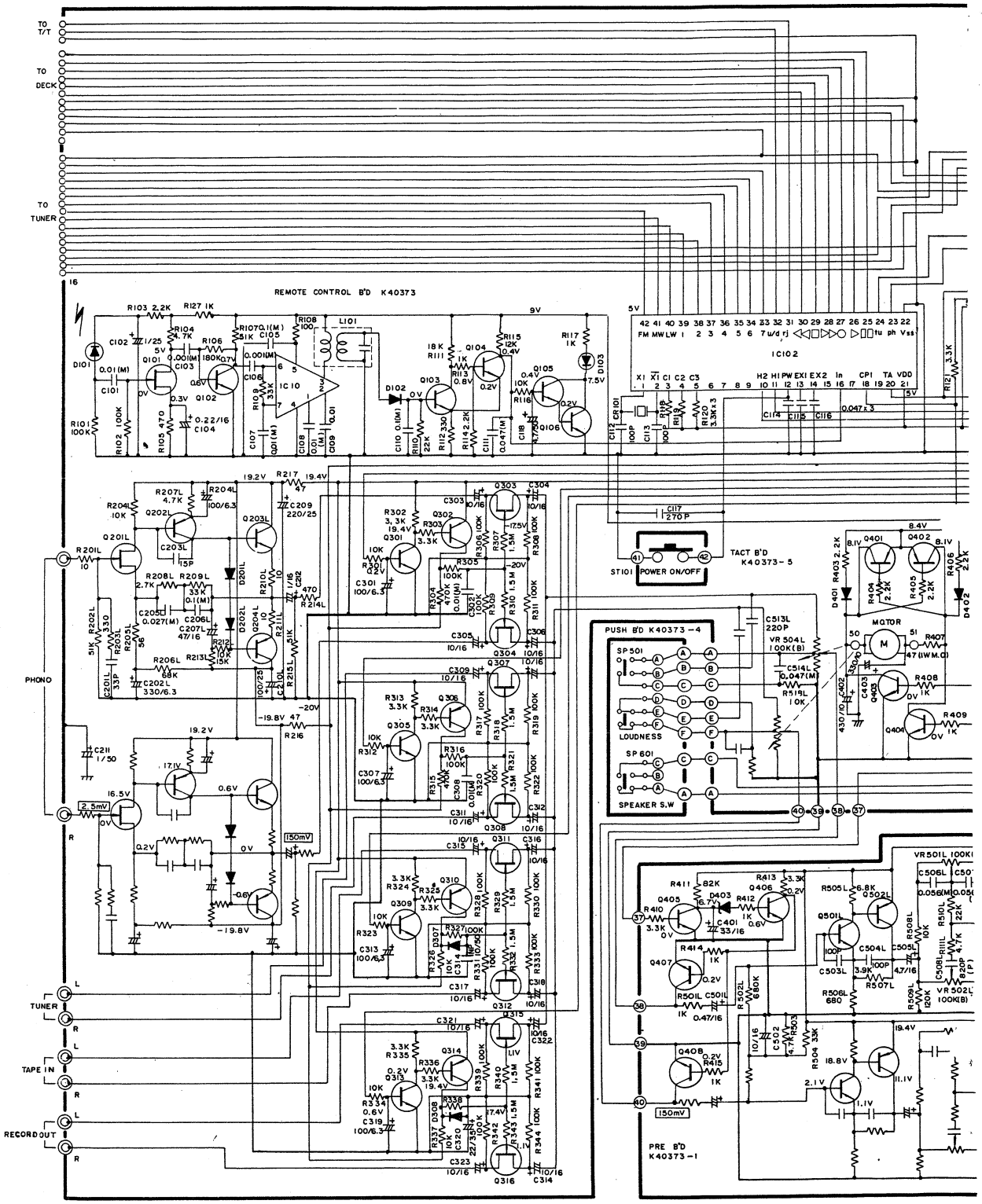


PARTS LIST ACCORDING TO EXPLODED VIEW

NO.	DESCRIPTION	PARTS NO.	Q'TY
1	FRONT PANEL	PC-61114	1
	(For Special Customer, VISONIK)	(PC-61114-02)	(1)
2	CONTROL KNOB	PE-72294-02	1
3	VOLUME KNOB	PE-72306	1
	(For Special Customer, VISONIK)	(PE-72306-02)	(1)
4	SENSOR WINDOW	PE-63153	1
5	SENSOR LENS	PE-63154	
	(For Special Customer, VISONIK)	(PE-63154-02)	(1)
6	END CAP(L)	PE-71113-01	1
7	END CAP(R)	PE-71113-02	1
8	FILTER(PHONO)	PE-63146-32/[-12]	1
9	FILTER(TUNER)	PE-63146-33/[-13]	1
10	FILTER(TAPE)	PE-63146-37/[-14]	1
11	FILTER(LOUDNESS)	PE-63146-35/[-15]	1
12	FILTER(SPEAKER OFF)	PE-63146-38/[-16]	1
13	FILTER(PHONES)	PE-63149-03/[-01]	1
14	FILTER(POWER ⏻)	PE-63151-05/[-01]	1
15	BEZEL	PE-72288-02	1
16	KNOB BEZEL	PE-72293-02	1
17	BACK CHASSIS For UL,CSA	PC-62413-02	1
	BACK CHASSIS For EU	PC-62413-03	1
	BACK CHASSIS For BS,SAA	PC-62413-04	1
18	CORD STOPPER For UL,CSA	PE-71008 A	1
	CORD STOPPER For BS,SAA	PE-71050	1
19	POWER CORD For EU	PE-67007	1
	POWER CORD For BS	PE-67031	1
	POWER CORD For SAA	PE-67054	1
	POWER CORD For UL, CSA	PE-67045	1
20	FUSE HOLDER For EU,BS,SAA	PE-69082	2
	FUSE HOLDER For UL,CSA	PE-69099	2
21			
22	STEEL CABINET	PC-74336	1
23	RECEPTACLE For EU	PE-65079-02	1
	RECEPTACLE For UL,CSA	PE-95114	1
24	STRIP FELT	PE-72307	4
25	KNOB LENS	PE-63149	1
26	KNOB BASE	PE-72289	1
27	LAMP CAP	PE-64093	2
28	LAMP CAP HOLDER	PE-72290	1
29	LAMP	PE-64069-05	2
30	HOUSE CAP	PE-72291	1
31	POWER SPRING	PE-66079	1
32	BEZEL COVER	PE-72287	1
33	KNOB LENS	PE-71214	5
34	KNOB BASE	PE-72286	2
35	KNOB BASE	PE-72284	3
36	TACT SW SPRING	PE-66077-02	6
37	BLANK COVER	PE-68780	1
38	SUPPORT B.K.T.	PE-68660	1
39	COLOR CAP	PE-71087-02	4
40	KEY B'D HOLDER	PD-72292	1

NO.	DESCRIPTION	PARTS NO.	Q'TY
41	PUSH SW B.K.T	PE-68661	1
42	PUSH SW	PE-90226	2
43	LAMP	PE-64098	3
44	TACT SW	PE-90288	3
45	PHONE KNOB LENS	PE-63152	1
46	FRONT CHASSIS	PC-62414	1
47	LED HOLDER	PE-69120	1
48	POTENTIOMETER(TONE)	PE-15100	2
49	POTENTIOMETER(BALANCE)	PE-15086-01	1
50	MOTOR VOLUME	PE-15111	1
51	PHONE JACK	PE-95099	1
52	MAIN CHASSIS	PE-62412	1
53	HEAT SINK	PD-73076	1
54	HEAT SINK B.K.T(R)	PE-68663-01	1
55	HEAT SINK B.K.T(L)	PE-68663-02	1
56	POWER SW B.K.T	PE-68662	1
57	BOTTOM CAP	PD-62416	1
58	FUSE COVER	PE-68664	1
59	TACT SW(POWER)	PE-90279	1
60	SIDE FRAME	PD-62410	1
61	SPEAKER TERMINAL	PE-76003	1
62	SYSTEM GND	PD-70052	1
63	P.C.B B.K.T	PE-68729	1
64	BOTTOM COVER	PE-62411	1
65	RCA JACK	PE-95093	2
66	RUBBER FOOT(L)	PE-71227	2
67	RUBBER FOOT(S)	PE-71265	5
68	RECEPTACLE(3P)	AE-95106-01	1
69	PLUG(12P)	AE-95107-01	1
70	PLUG(16P)	AE-95108-01	1
71	SHIELD CAP	PE-68667	1
72	CONNECTOR B.K.T	PE-68731	1
73	TRANSFORMER(L)		1
74	TRANSFORMER(S)		1
75	MAIN B'D		1
76	POWER B'D		1
77	TONE B'D		1
78	TACT SW B'D		1
79	PUSH SW B'D		1
80	POWER SW B'D		1
81	FUSE B'D		1
82	SCREW	#FTC3×6	2
83	SCREW	#3BTC3×6	35
84	SCREW	BTC3×8	10
85	SCREW	BTC3×6	5
86	SCREW	MCPH3×22	2
87	SCREW	#3PTC3×8B	6
88	SCREW	WPTC3×8	7
89	NUT(M4)	FLAGE	4
90	SCREW	#3WPTC3×8W	4
91	LED		1

SCHEMATIC DIAGRAM



Q102 - Q108, Q301, Q305, Q309, Q313, Q317 - Q319, Q403 - Q408, Q601, Q602: 2SC1815GR/BL

Q302, Q306, Q310, Q314: 2SA1015GR/BL

Q202L.R, Q204L.R, Q502L.R: 2SA841BL or 2SA970BL

Q203L.R: 2SC1681BL or 2SA970BL

Q401, Q402: MPS A55

Q603, Q702: MPSA05

Q501L.R, Q503L.R: MPS 9633 C/D

Q701: MPS 9400L

D101: PHOTO DIODE: H3 MLR

D102, D301 - D306: IN60 Pair

D201L.R, D202L.R, D401, D402: CDG24

D705 - D708: IN5172 (2A100V)

D103: TLR 206

D104, D601 - D603, D701 - D704

D709 - D711: 1N4002

D716: WZ 050

D714, D715: WZ090

D403: WZ061

D712, D713: WZ197

D307, D308: CDG24

IC101: TA7061AP

IC102: TC 9134

IC301: MC14069

IC302, IC303: SN74LS73

IC601: STK 463

IC701, IC703: 78L09

IC702: 78L05

Q101, Q201L.R: 2SK117GR/BL

Q303, Q304, Q307, Q308, 311, Q312, Q315, Q316: 2SK30A

RLY101, RLY601: RELAY 12V

LP101, LP102, LP301 - LP303: 12V LAMP

SP501: LOUDNESS S.W

A:B, F:Z — ON

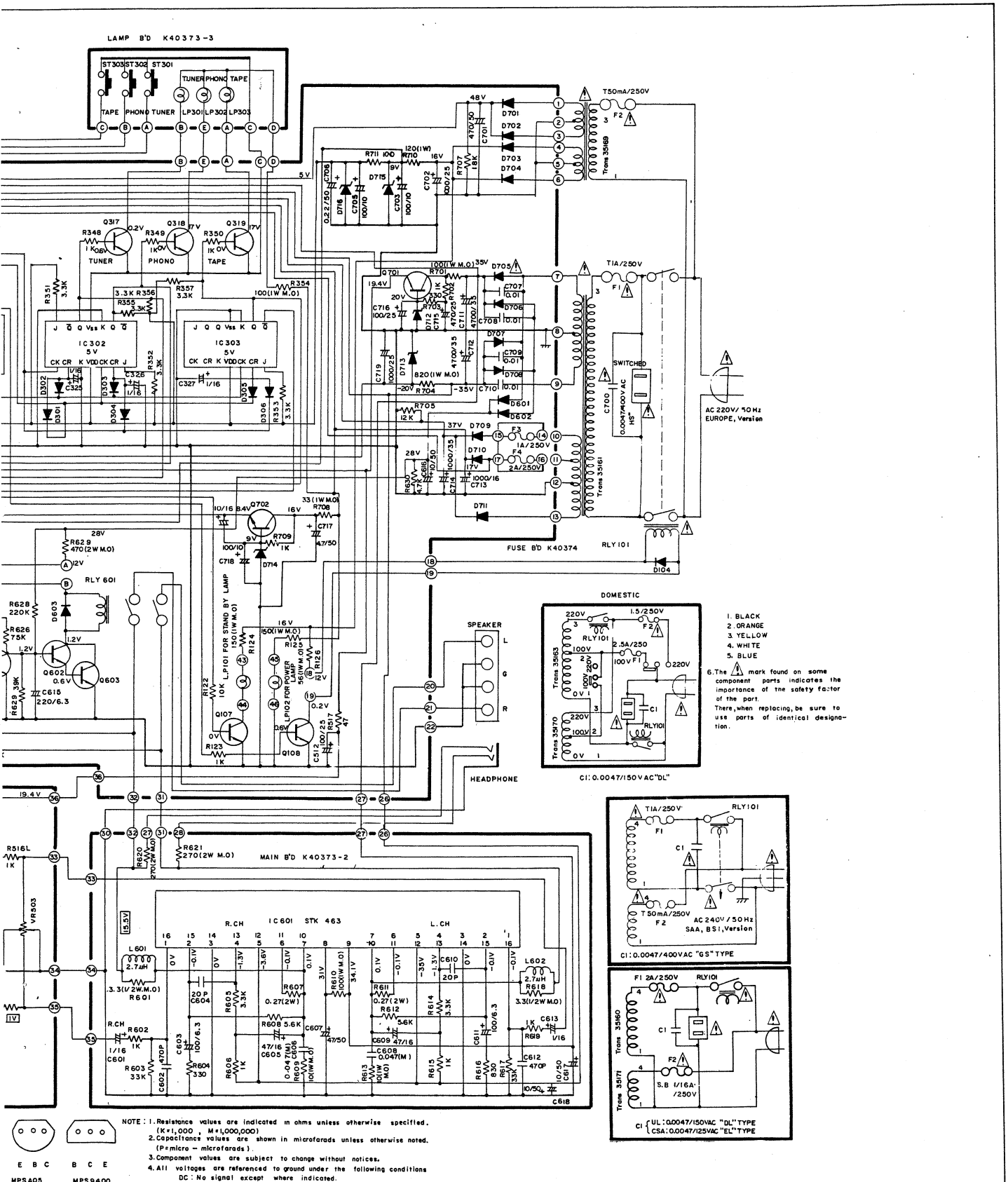
A:C, F:D — OFF

SP601: SPEAKER S.W

A:B — OFF

A:C — ON

L101: 38KHz FILTER

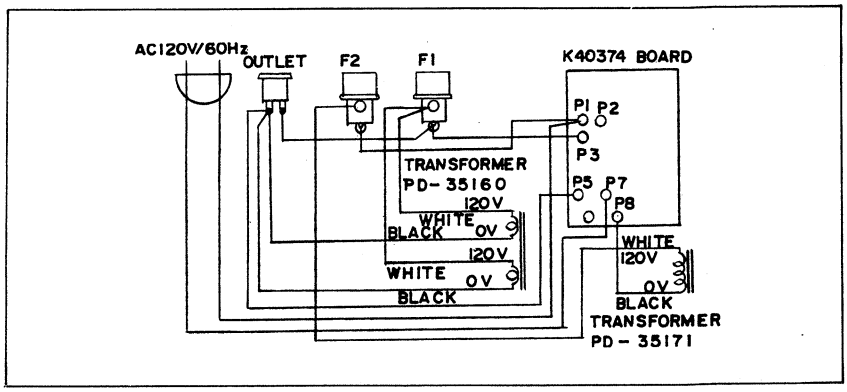


NOTE : 1. Resistance values are indicated in ohms unless otherwise specified.
(K=1,000 , M=1,000,000)
2. Capacitance values are shown in microfarads unless otherwise noted.
(P=micro – microfarads).
3. Component values are subject to change without notices.
4. All voltages are referenced to ground under the following conditions
DC : No signal except where indicated.
AC : R M S
5. V ···AC (at 1KHz, 8ohm load, full signal)

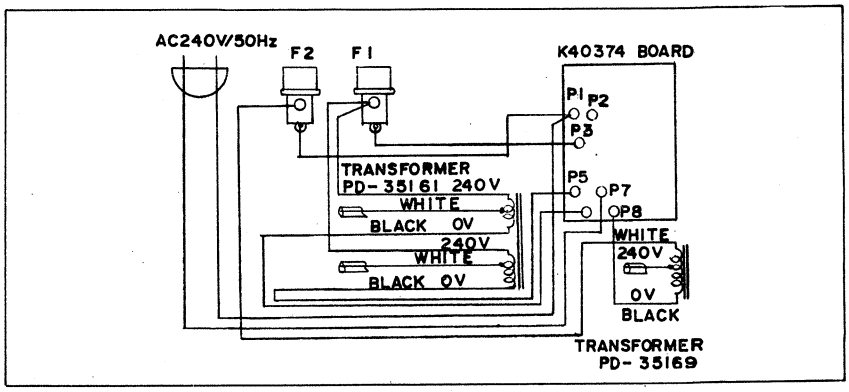
POINT TO POINT WIRING DIAGRAM

● AC Power Supply Connections around Transformer according to Safety Regulation

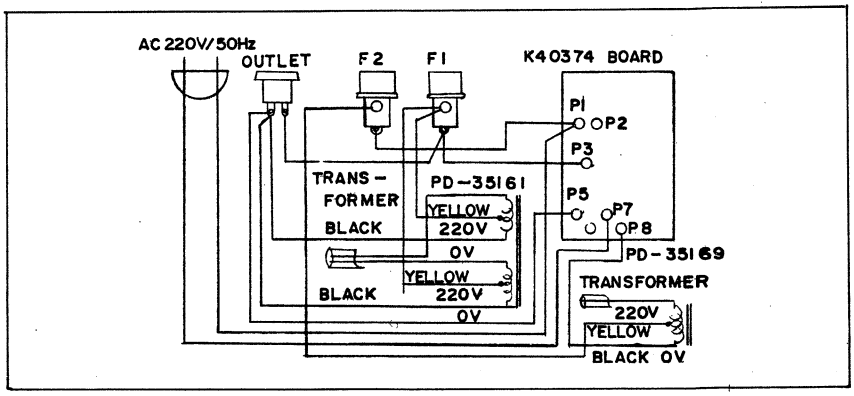
● UL. CSA Model Only



● BS. SAA Model Only



● EU Model Only



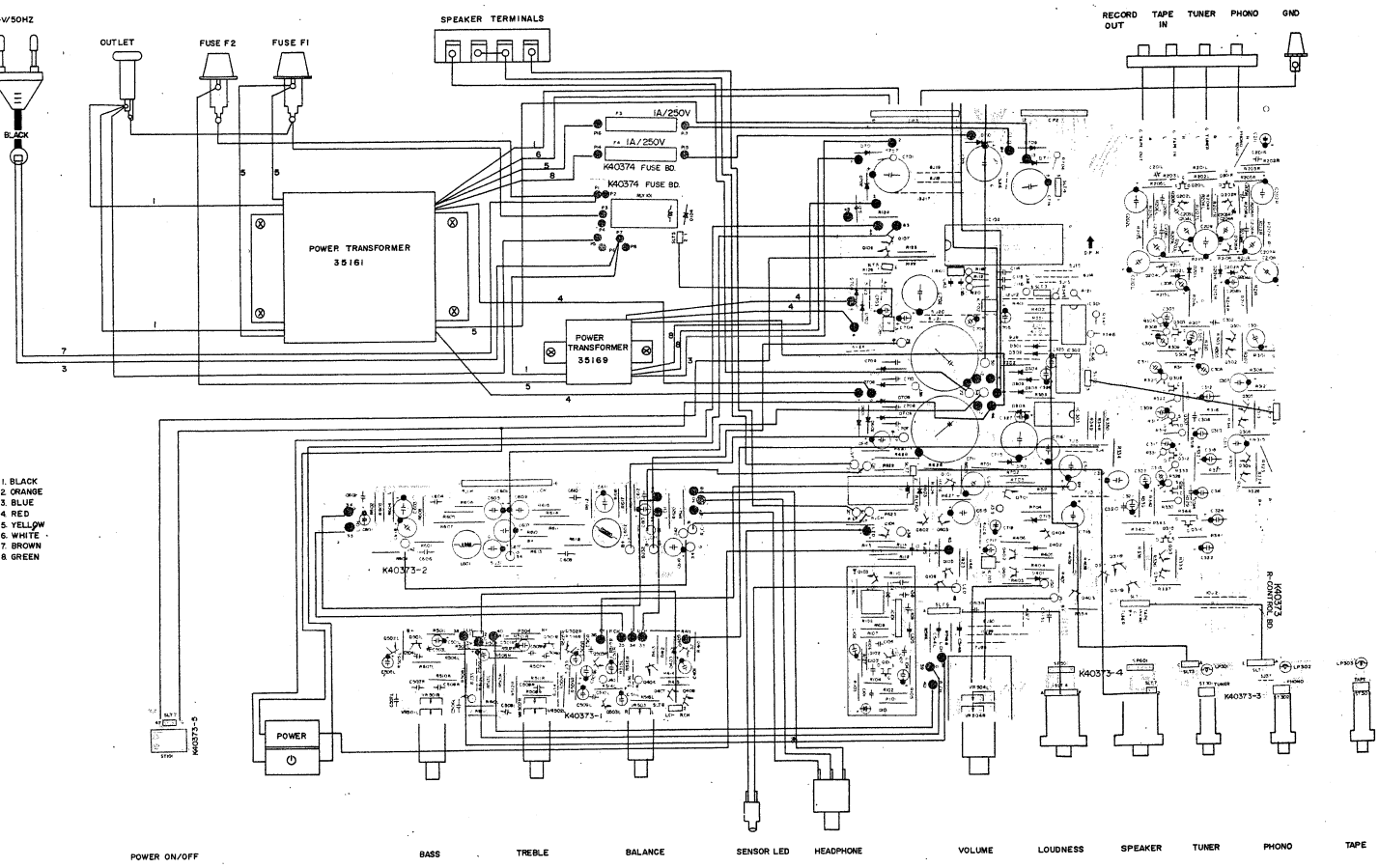
NOTE:

AS to U.L., C.S.A., B.S., S.A.A, EU and XX marked in the parts lists, note the followings;

U.L., C.S.A... Approved parts used in the unit which is applicable to U.S.A. and Canada under safety requirement. (AC 120V 50/60Hz)

B.S., S.A.A.... Approved parts used in the unit which is applicable to British and Australia under safety requirement. (AC 240V/50Hz)

E.U..... Approved parts used in the unit which is applicable to West Germany, France, Italy, Sweden, Denmark, Norway, Switzerland, etc. under safety requirement. (AC 220V/50Hz)

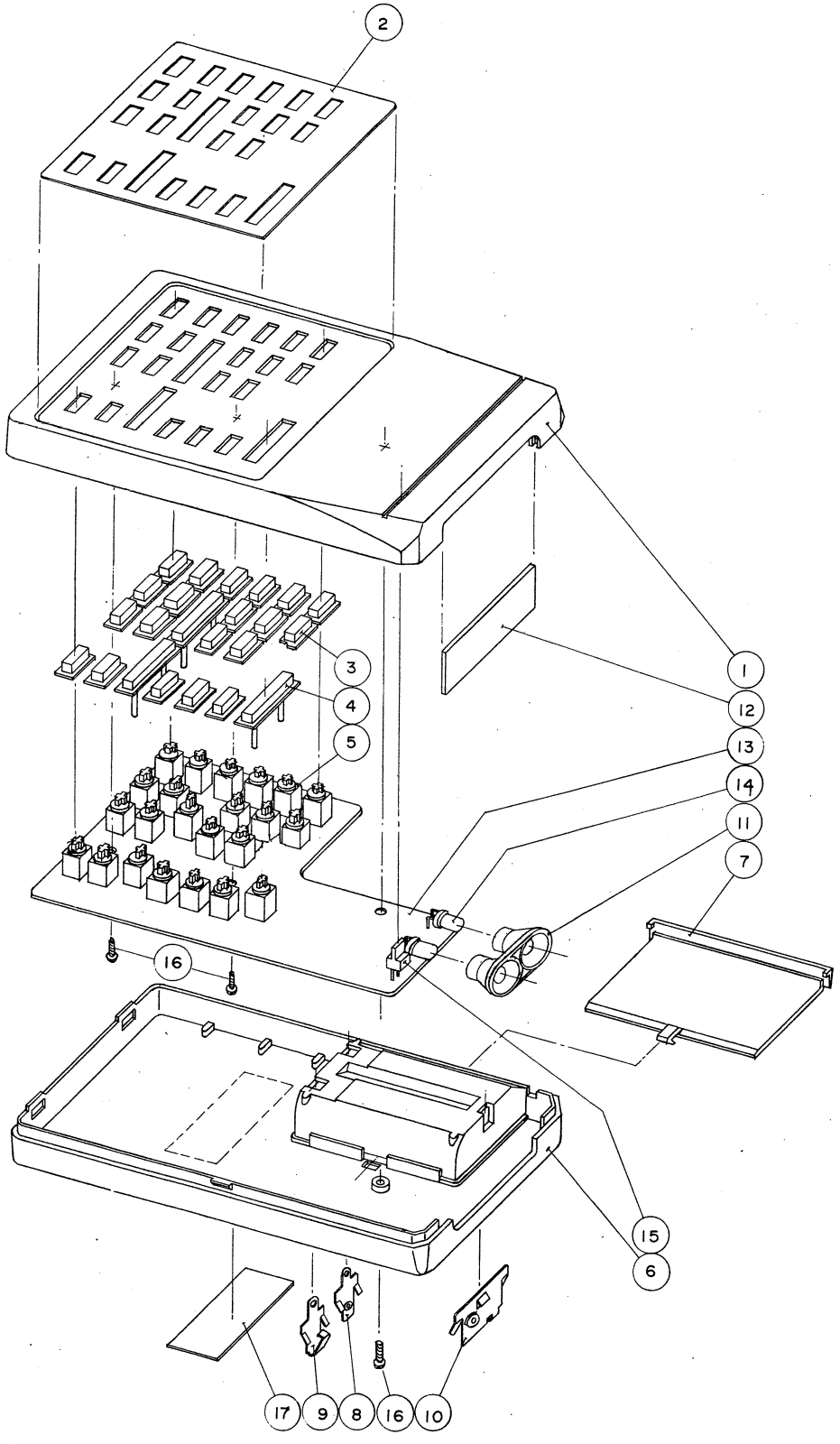


NOTE:

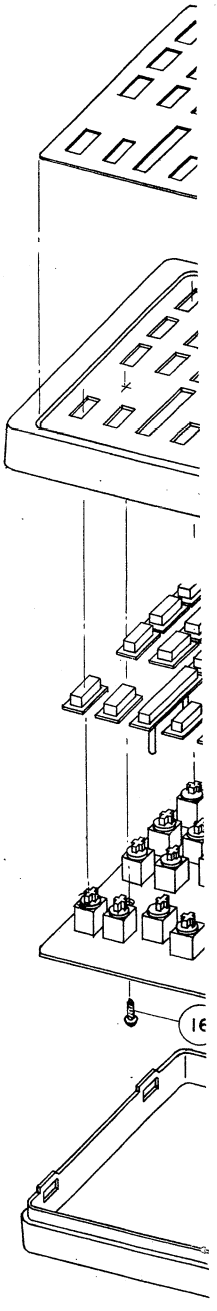
This wiring diagram is drawn for AC 220V/50Hz model only. All the inside connections are the same as this diagram, except for the connections of AC power supply section.
Please refer to the "AC Power Supply Connections around Transformer according to Safety Regulations" for the others.

EXPLODED VIEW OF CABINET AND CHASSIS

RD50 SECTION



RD50L SE



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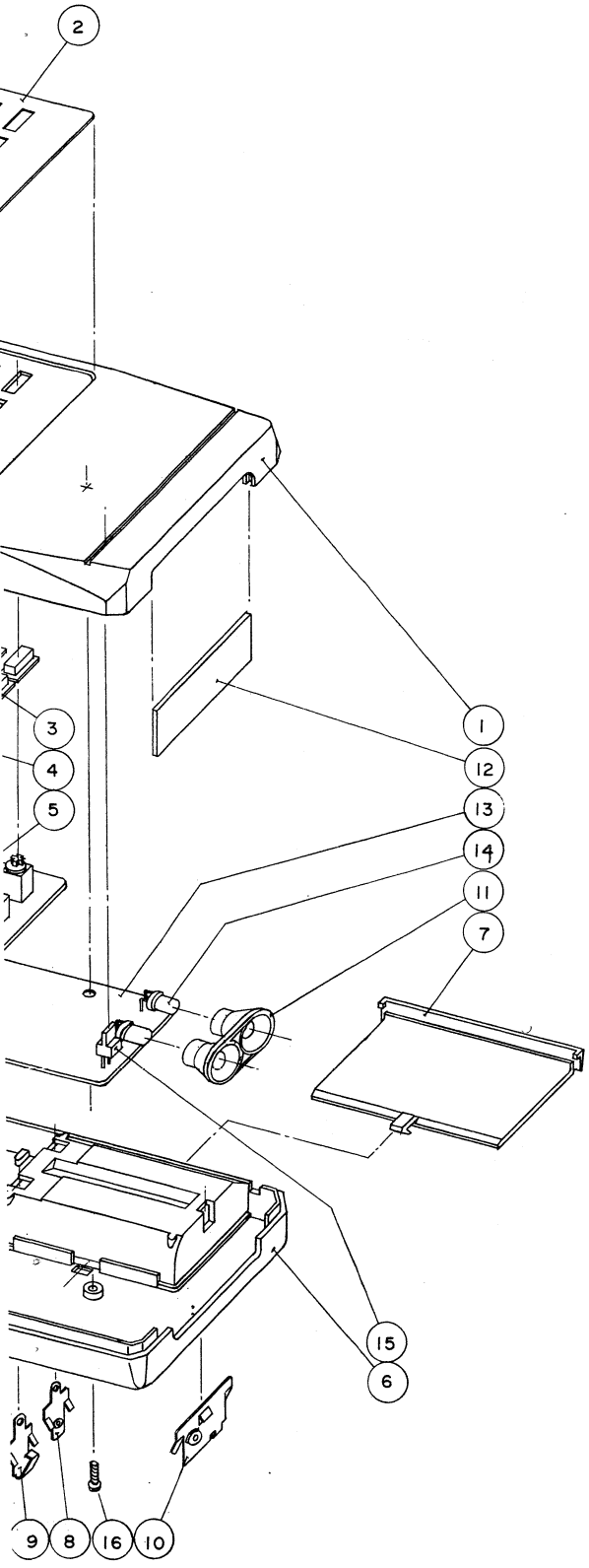
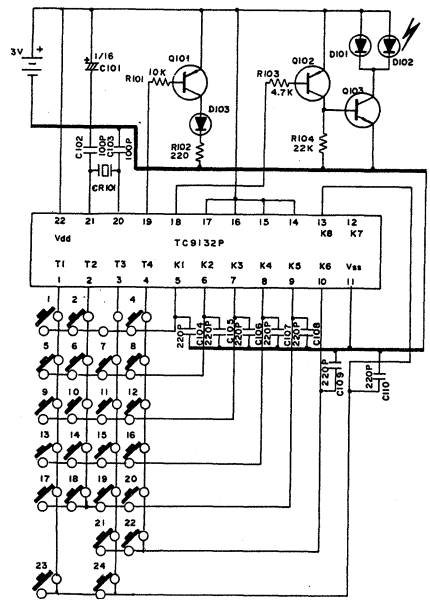


PARTS LIST ACCORDING TO EXPLODED VIEW

NO.	DESCRIPTION	PARTS NO.	Q'TY
1	TOP COVER For EU, BS, SAA	PC-71229-01	1
	(For Special Customer, VISONIK)	(PC-71229-05)	(1)
	TOP COVER For UL, CSA	PC-71229-02	1
2	DECORATION COVER	PE-77100	1
3	TACT KNOB A (RD50/RD50L)	PE-72295-01	20/21
4	TACT KNOB B	PE-72296-01	3
5	TACT SWITCH(RD50 /'RD50L)	PE-90289	23/24
6	BOTTOM COVOR	PC-71 230-01	1
7	BATTERY COVER	PD-71231-01	1
8	BATTERY TERMINAL(+)	PE-76025	1
9	BATTERY TERMINAL(−)	PE-76026	1
10	BATTERY TERMINAL(SH)	PE-76027	1
11	REFLECTOR	PE-71261	1
12	EMIT WINDOW	PE-63155	1
13	CONTROL BOARD	PE-K40372	1
14	EMITTING DIODE	EL2	2
15	LED	TLR 205	1
16	SCREW	PTC2.6×8	3

SCHEMATIC DIAGRAM (RD50)



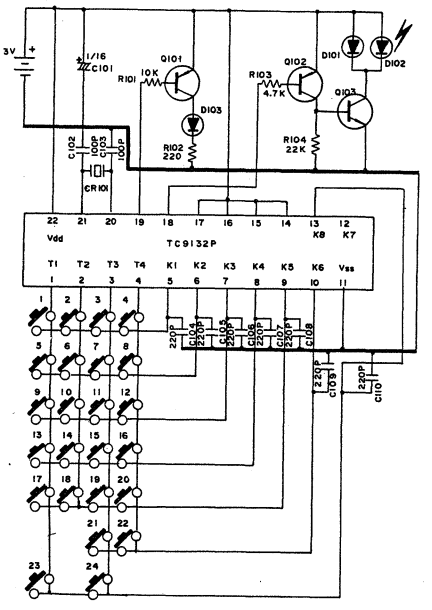
Q101, Q102: 2SA1015
Q103: MPS A05

D101, D102: EMITTING EL2
D103: TLR 205

CR101: CSB455E

1	FM	11	T/T up/down	21	Volume down
2	AM	12	T/T Reject	22	Volume UP
		13	◁◁	23	Power ON/OFF
4	1	14	□	24	Tape
5	2	15	▷▷		
6	3	16	○▷		
7	4	17	○▷		
8	5	18	□□		
9	6	19	TUNER		
10	7	20	PHONO		

SCHEMATIC DIAGRAM (RD50L)



Q101, Q102: 2SA1015
Q103: MPS A05

D101, D102: EMITTING EL2
D103: TLR 205

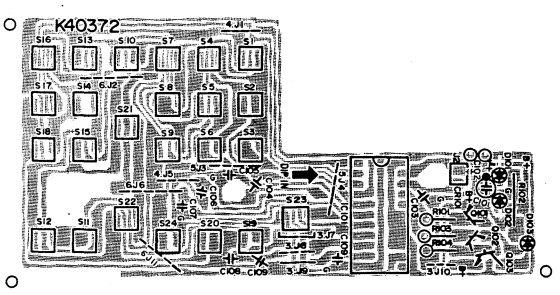
CR101: CSB455E

1	FM	11	T/T up/down	21	Volume down
2	MW	12	T/T Reject	22	Volume UP
3	LW	13	◁◁	23	Power ON/OFF
4	1	14	□	24	Tape
5	2	15	▷▷		
6	3	16	○▷		
7	4	17	○▷		
8	5	18	□□		
9	6	19	TUNER		
10	7	20	PHONO		

PARTS LIST

Ref No.	Parts No.	Description	Q'ty
K40372 REMOTE CONTROL BOARD			
IC101		IC TA9132	1
Q101,Q102		Transistor 2SA1015 GR/BL	2
Q103		Transistor MPS AO5	1
CR101		Ceramic Resonator CSB455E	1
D101,D102		Diode Emitting EL2	2
D103		Diode LED TLR-205	1

TOP VIEW OF P.C. BOARDS



Stereo Cassette Deck CD30

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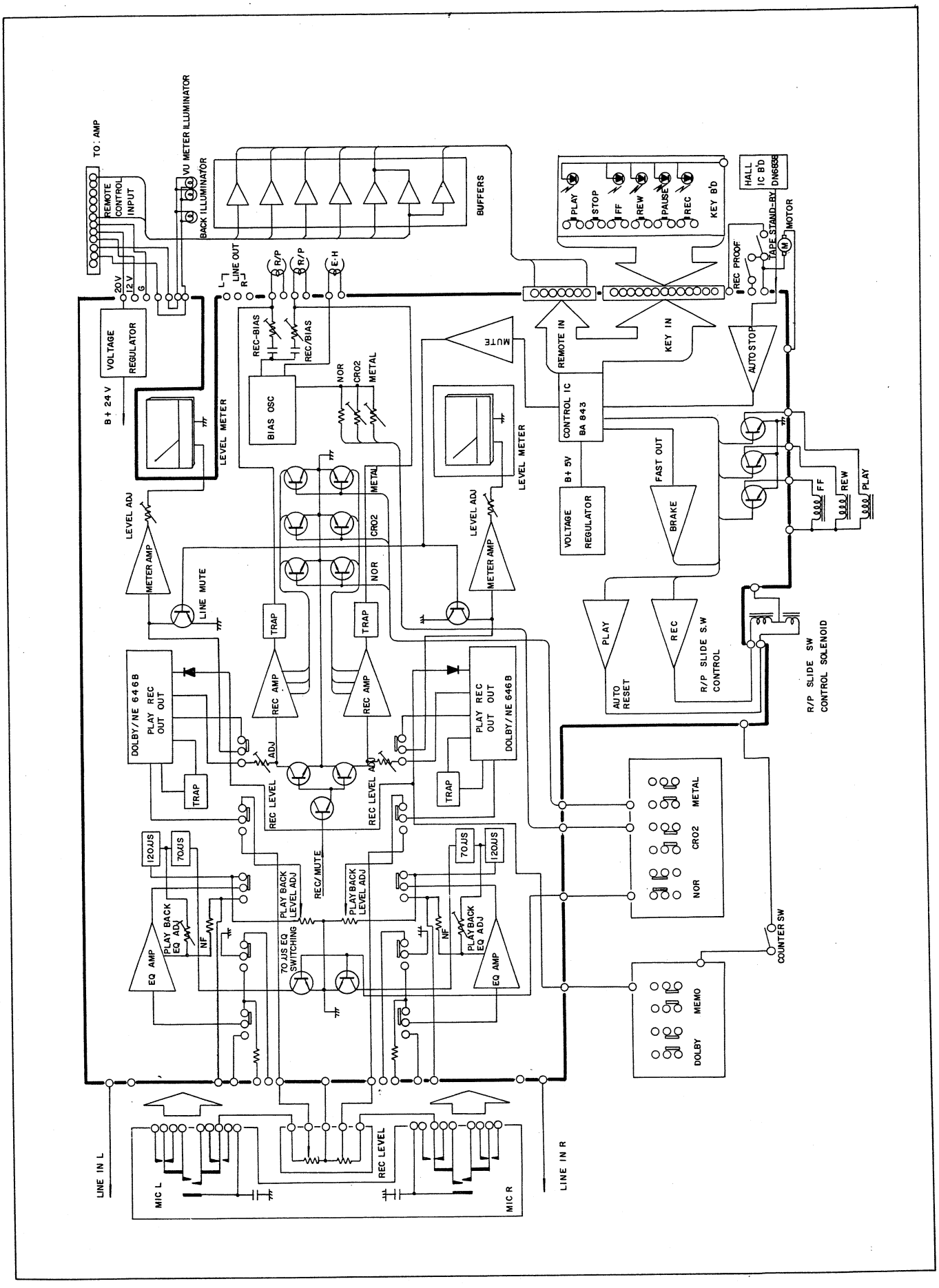
BLOCK DIAGRAM



ELECTRICAL ADJUSTMENT PROCEDURE

To make the adjustments the following instruments are necessary:

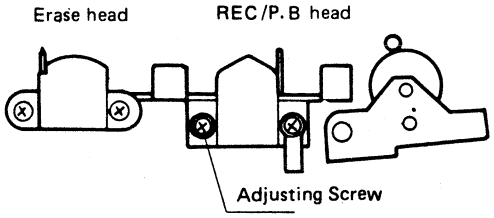
- High sensitivity AC voltmeter
- Audio frequency oscillator
- Attenuator
- Oscilloscope
- Distortion meter
- Wow and flutter meter w/frequency counter
- CCIR/ARM noise weighting filter
- Test tape

Ⅰ. TAPE SPEED

1. Connect the wow and flutter meter to OUTPUT terminals.
   * Output terminals: Line output fixed.
2. Play back the 3KHz, −10dB signal of the test tape(MTT-111).
3. Insert a small-screwdriver into the adjustment hole(=behind of the motor), and adjust the semifixed resistor till the wow and flutter meter reads 3KHz.
   * If the speed is low, turn the resistor clockwise.
   * If the speed is high, turn it counter-clockwise.

Ⅱ. HEAD AZIMUTH (Fig. 1)

1. Set the TAPE selector(EQ) to FE(=NORM).
2. Connect the voltmeter and oscilloscope to OUTPUT terminals.
3. Play back the 10KHz, −10dB signal of the test tape. (MTT-114)
4. Observing the voltmeter, turn screw(REC/P. B head adjusting screw) to maximize the signal on both the left and right channels.
5. After adjustment, be sure to lock screw so that it cannot move.



(Fig. 1)

Ⅲ. PLAYBACK EQUALIZER

1. Set the TAPE selector to FE(=NORM).
2. Set the Dolby NR switch OFF
3. Set the MPX switch to be OFF.
4. Connect the voltmeter and oscilloscope to the OUTPUT terminals.
5. Set VR102R(right) and VR102L(left) on the REC/P. B assembly to medium.
6. Playback the 12.5KHz/1KHz/40Hz, −24dB signal of the test tape. (MTT-217G)
7. Adjust VR101R(right) and VR101L(left) on the REC/P. B amplifier until the voltmeter indicates the same level.
8. In playback of the test tape(MTT-217G), set the TAPE selector to FeCr, CrO_2 and Metal position, then confirm the indication on AC voltmeter dropping down approximately 4dB.
   * Standard frequency: 1KHz

Ⅳ. PLAYBACK LEVEL

1. Connect the voltmeter and oscilloscope to the OUTPUT terminals.
2. Set the DOLBY NR switch OFF.
3. Playback the 400Hz, 0dB(=0.500V) signal of the test tape.(MTT-150)
4. VR102R(right) and VR102L(left) should be adjusted till the voltmeter read is0.500V.

ELECTRICAL ADJUSTMENT PROCEDURE

V. LED METER CALIBRATION

1. Apply a 400Hz signal to the INPUT terminals(=line input) and put the deck in the record mode.
2. Connect the voltmeter and oscilloscope to the OUTPUT terminals(Fixed).
3. Set the Dolby NR switch OFF.
4. Push the INPUT selector switch to LINE.
5. Adjust the REC attenuator controls till the OUTPUT from the OUTPUT terminals is 0dB(=0.500V).
6. After above procedures Ⅱ~Ⅳ,adjust VR 104R(right) and VR 104L(left) until the VU meter indicates approximate "+3" or DOLBY level.

Ⅵ. RECORDING BIAS

1. Set the INPUT level controls to their minimum positions and put the deck in the record mode.
2. Set the TAPE selector to FE(=NORM).
3. Connect the voltmeter to test point T. P2(right) and T. P1(left) on the P. B amplifier.
4. Adjust VR105R(right) and VR105L(left) until the voltmeter reads 3.8mV(=380uA)
5. Check
   * CrO_2 : Adjust VR106 until the voltmeter reads 4.8 mV(=480uA)
   * METAL: Adjust VR107 until the voltmeter reads 7.2mV(=720uA)

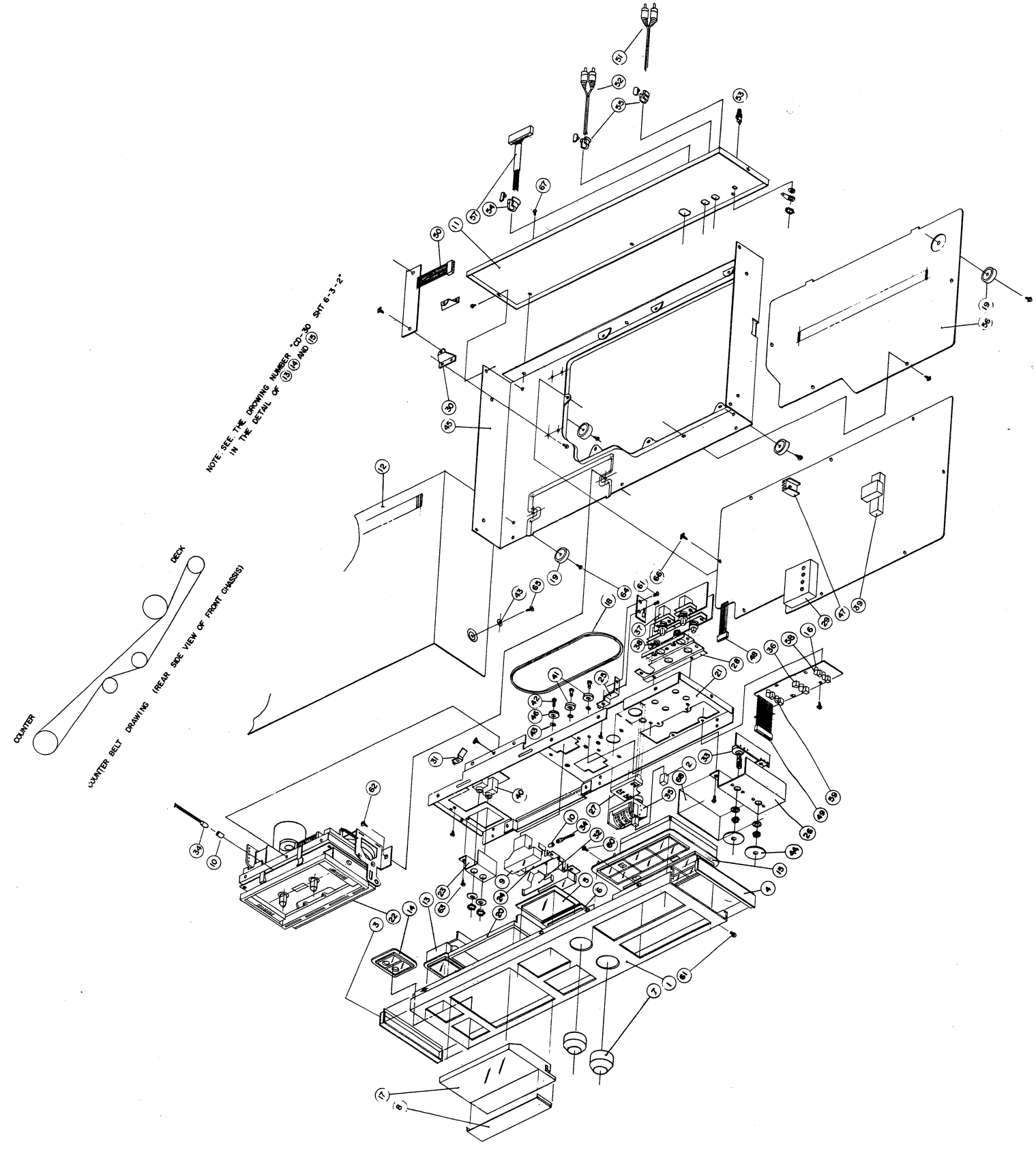
Ⅶ. BIAS TRAP

1. Put the deck in the record mode and set the INPUT level controls to minimum position.
2. Set the TAPE selector to METAL.
3. Connect the voltmeter and oscilloscope to terminals T. P8 (right) and T. P7 (left) on REC amplifier.
4. Adjust T101R(right) and T101L(left) until the output of the bias wave form is minimized.

Ⅷ. RECORDING LEVEL

1. Apply a 400Hz signal to the INPUT terminals(=line input) and put the deck in the record mode.
2. Connect the voltmeter and oscilloscope to the OUTPUT terminals.
3. Adjust the REC attenuator controls until the OUTPUT from the OUTPUT terminals is 0dB(=0.500V).
4. Connect the voltmeter to test point T. P6 (right) and T. P5 (left) on the REC amplifier.
5. Set the TAPE selector(EQ) to FE(=NORM).
6. Adjust VR103R(right) and VR103L(left) until the voltmeter reads about −10~−14dB.

EXPLODED VIEW OF CABINET AND CHASSIS

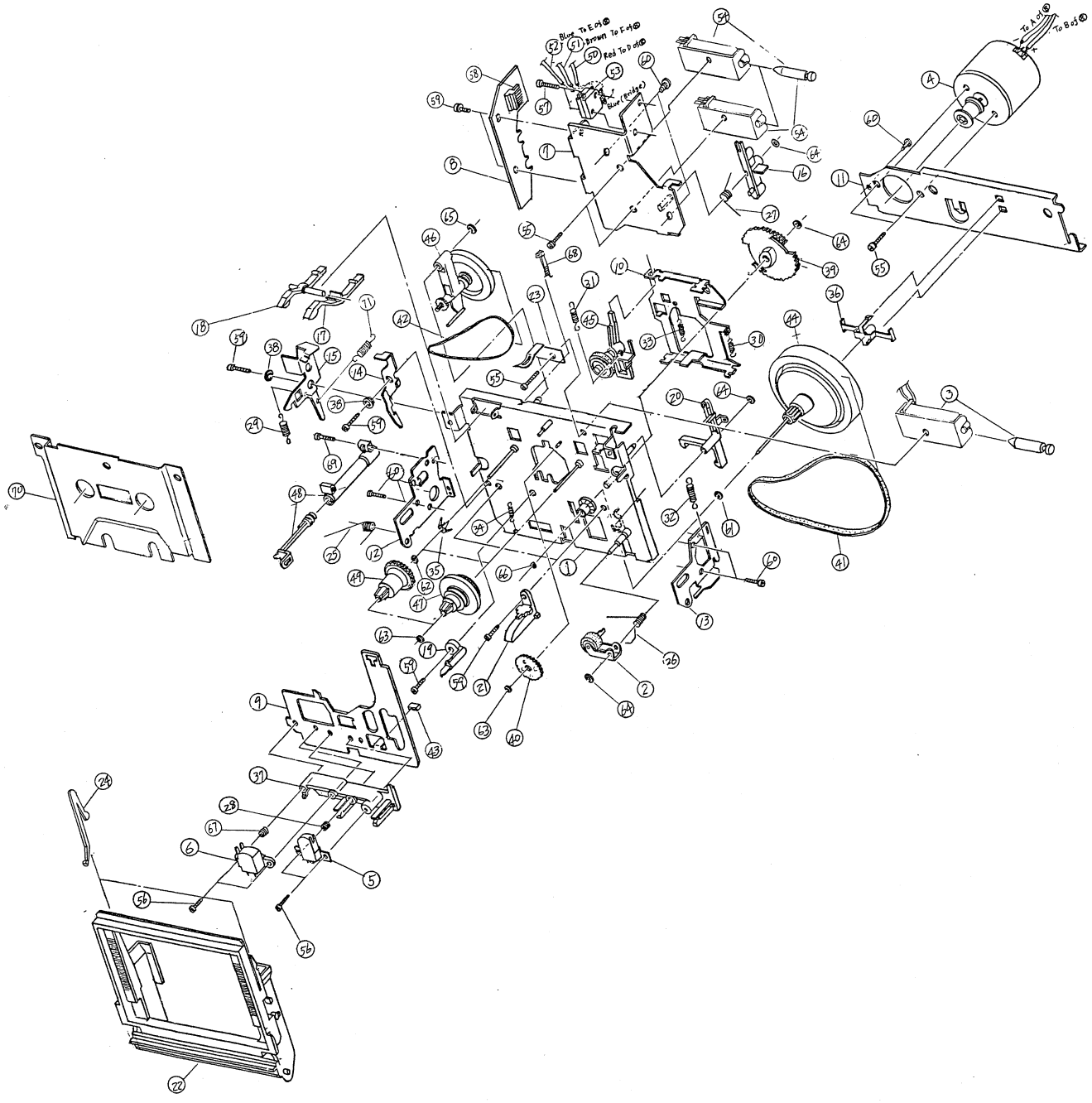

NOTE: SEE THE DRAWING NUMBER "CD-30 SHT 6-3-2" IN THE DETAIL OF (13) (14) AND (15)
DECK
COUNTER
COUNTER BELT DRAWING (REAR SIDE VIEW OF FRONT CHASSIS)

PARTS LIST ACCORDING TO EXPLODED VIEW

NO.	DESCRIPTION	PARTS NO.	Q'TY
1	FRONT PANEL	PC-61113	1
	(For Special Customer, VISONIK)	(PC-61113-02)	(1)
2	COUNTER KNOB	PE-71220	1
3	END CAP(L)	PE-71222-01	1
4	END CAP(R)	PE-71222-02	1
5	METER WINDOW(L)	PE-63140A-03	1
	(For Special Customer, VISONIK)	(PE-63140-15)	(1)
6	METER WINDOW(R)	PE-63140A-04	1
	(For Special Customer, VISONIK)	(PE-63140A-16)	(1)
7	CONTROL KNOB	PE-72294	2
8	DOOR PLATE	PE-77098-01	1
9	METER	AD-75049-02	1
	(For Special Customer, VISONIK)	(AD-75049-12)	(1)
10	COLOR CAP	PE-71087-01	3
11	BACK CHASSIS	PC-62409	1
12	STEEL CABINET	PC-74335	1
13	EJECT KNOB ASS'Y	AD-72288-All	1
14	MIC LENS ASS'Y	AE-71223-A01	1
15	PUSH KNOB ASS'Y	AC-71224-A01	1
16	LED SPACING	PE-71213	5
17	DOOR WINDOW	PD-71219B	1
18	COUNTER BELT	PE-71221	1
19	RUBBER FOOT	PE-71227	4
20	DECK FENCE	PD-71255	1
21	FRONT CHASSIS	PC-62406	1
22	DECK ASS'Y	PC-10094	1
23	MIC JACK B.K.T	PE-68651	1
24	METER HOLDER	PE-68652A	2
25	HALL IC B'D B.K.T	PE-68653	1
26	POTENTIOMETER B.K.T	PE-68654	1
27	COUNTER B.K.T	PE-68655	1
28	PUSH SW B.K.T	PE-68656	1
29	SHIELD CAP	PE-68666	1
30	REMOCON B'D B.K.T	PE-68725	2
31	PUSH STOP B.K.T	PE-68726	1
32	LIGHT SPREADER	PE-63158	2

NO.	DESCRIPTION	PARTS NO.	Q'TY
33	POTENTIOMETER	PE-15087	2
34	LAMP	PF-64069A-05	3
35	COUNTER	PE-75044	1
36	TACT SW	PE-90289	6
37	PUSH SW	PE-90295	2
38	PUSH SW	PE-90297	1
39	SOLENOID SW	PE-90302	1
40	MIC JACK	PE-95098	2
41	ROLLER	PE-66039	2
42	PIVOT	PE-70032-01	3
43	VINYL WASHER	PE-70046	7
44	STRIP FELT	PE-72307	2
45	MAIN CHASSIS	PC-62407	1
46	ROLLER	PE-66040	1
47	REG TR HEAT SINK	PE-73060-04	1
48	CONNECTOR ASS'Y	AE-95110	1
49	CONNECTOR ASS'Y	AE-95111	1
50	CONNECTOR ASS'Y	AE-95109	1
51	PATCH CORD	PD-67153B-01	1
52	PATCH CORD	PD-67153B-03	1
53	SYSTEM GND	AD-70052	1
54	CORD STOPPER	PE-71050	1
55	CORD STOPPER	PE-71008A	2
56	BOTTOM COVER	PE-62408	1
57	HOUSING ASS'Y	AE-95107B-02	1
58	DIODE LED	SLR54GC	4
59	DIODE LED	SLR54URC	1
60	SCREW #3 FTC 3×8		3
61	SCREW #3 BTC 3×8		3
62	SCREW #3 BTC 3×6		21
63	SCREW #3 BTC 3×6		12
64	SCREW #3 WPTC 3×8		4
65	SCREW #2 WPTC 3×8W		4
66	SCREW WPTC 3×8		17
67	SCREW #3 PTC 3×8B		5
68	LIGHT COVER FELT	PE-71286	1

EXPLODED VIEW OF DECK MECHANISM ASS'Y

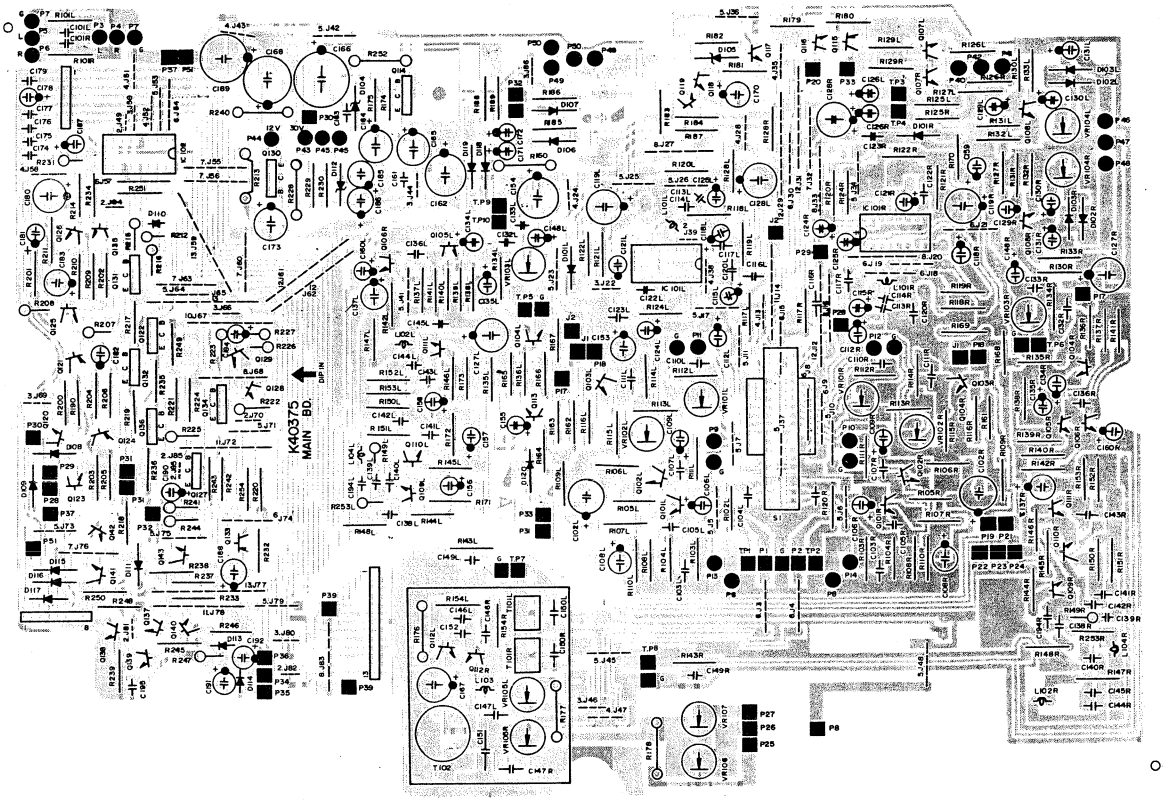


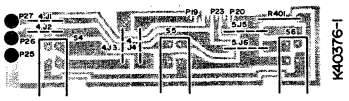
PARTS LIST ACCORDING TO DECK MECHANISM ASS'Y

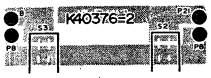
NO.	PARTS NO.	DESCRIPTION	Q'TY
1	FO11-160	ASS'Y CHASSIS	1
2	FO14-053	ASS'Y PINCH ROLLER	1
3	FO23-025	ASS'Y SOLENOID	1
4	FO64-074	ASS'Y MOTOR	1
5	FU184-02	REC/PLAY HEAD	1
6	FU186-11	ERASE HEAD	1
7	F214-011	ASS'Y SOLENOID BRACKET	1
8	F217-011	ASS'Y CONNECTOR PANEL	1
9	FR345-11	HEAD BASE	1
10	FR346-11	ASSIST BASE	1
11	FR347-11	MOTOR BRACKET	1
12	FR349-12	DAMPER BRACKET	1
13	FR350-11	DOOR BRACKET	1
14	FR352-11	LEVER SAFETY	1
15	FC11H-11	EJECT LOCK ARM	1
16	FR355-11	FF SOLENOID ARM	1
17	FR356-11	SWITCH ARM	1
18	FR357-12	RECORD ARM	1
19	FR358-12	GUIDE REFERENCE	1
20	FR359-12	ARM PLAY SOLENOID	1
21	FR360-12	CASSETTE GUIDE	2
22	FR369-11	FRAME DOOR(COLOR: BLACK)	1
23	FK551-11	CASSETTE SPRING	1
24	FK553-12	SPRING HOLD	2
25	FK568-11	DOOR SPRING	1
26	FK569-12	PINCH ROLLER SPRING	1
27	FK570-12	SOLENOID BRACKET SPRING	1
28	FK572-11	SPRING AZIMUTH	2
29	FK573-11	ARM LOCK SPRING	1
30	FK574-11	ASSIST BASE SPRING	1
31	FK575-11	PLAY IDLER SPRING	1
32	FK576-12	PLAY SOLENOID ARM SPRING	1
33	FK577-11	HEAD BASE SPRING	1
34	FK578-11	HEAD BASE PUSHING SPRING	1
35	FK579-11	BACK TENSION SPRING	2

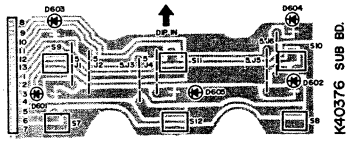
NO.	PARTS NO.	DESCRIPTION	Q'TY
36	FM281-11	FLYWHEEL SPACER	1
37	FM283-11	HEAD SPACER	1
38	FM296-11	SPACER	2
39	FN153-11	PLAY GEAR	1
40	FN154-12	IDLE GEAR	1
41	FP462-11	BELT MAIN	1
42	FP463-11	BELT SUB	1
43	FP464-11	PAD CUSHION	1
44	FP467-11	ASS'Y FLYWHEEL	1
45	FP469-11	ASS'Y IDLER	1
46	FP470-11	ASS'Y CLUTCH	1
47	FP471-11	ASS'Y TAKE-UP REEL	1
48	FP-472-11	ASS'Y DAMPER	1
49	FP487-12	ASS'Y SUPPLY REEL	1
50	WG14R-06	VINYL WIRE	1
51	WG14T-04	VINYL WIRE	1
52	WG14U-10	VINYL WIRE	1
53	FE173-11	SLIDE SWITCH	2
54	PKA16102	SOLENOID	2
55	FG114-15	SCREW	5
56	FG137-15	SCREW F-LOKS(M2)	4
57	FG143-26	SCREW (M2.6)	2
58	FG193-11	SCREW (M3)	2
59	KG194-12	SCREW TAPTITE(M3x6)	5
60	KG194-46	SCREW TAPTITE(M3x4)	7
61	FJ111-14	POLYSLIDER ϕ 2.5x0.5(F/W)	1
62	FJ111-19	POLYSLIDER ϕ 2x0.03(SUPPLY REEL)	1
63	FJ123-14	WASHER LOCK ϕ 1.7	3
64	FJ123-15	WASHER LOCK ϕ 2.6	3
65	FJ123-19	WASHER LOCK ϕ 3.5	1
66	FJ141-12	OIL SEAL	1
68	FH126-11	BAND	1
69	UG11D-11	SCREW TAPTITE	1
70	F184-025	ASS'Y DRESSING BOARD	1

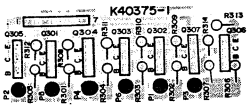
TOP VIEW OF P.C. BOARDS











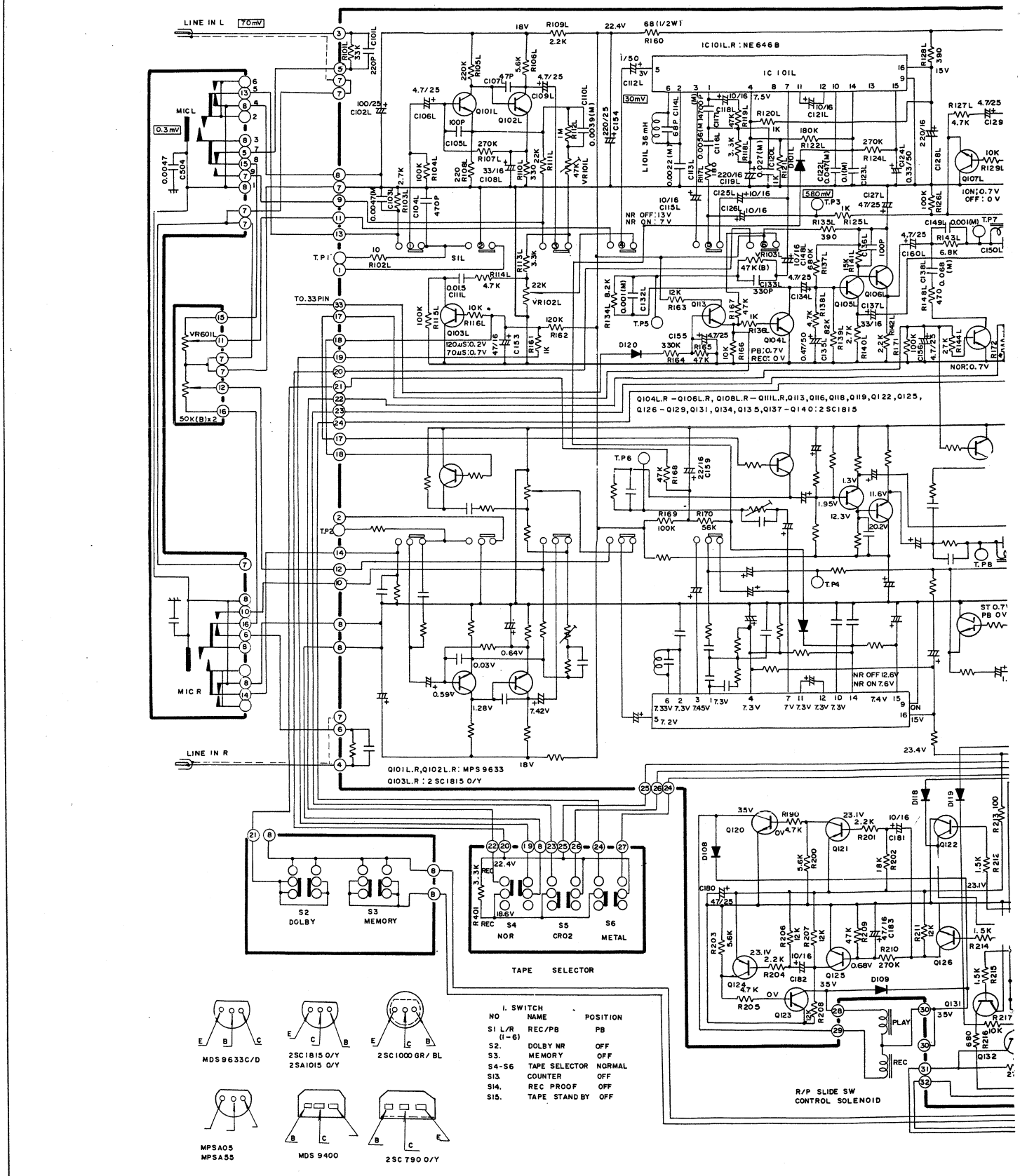
PARTS LIST

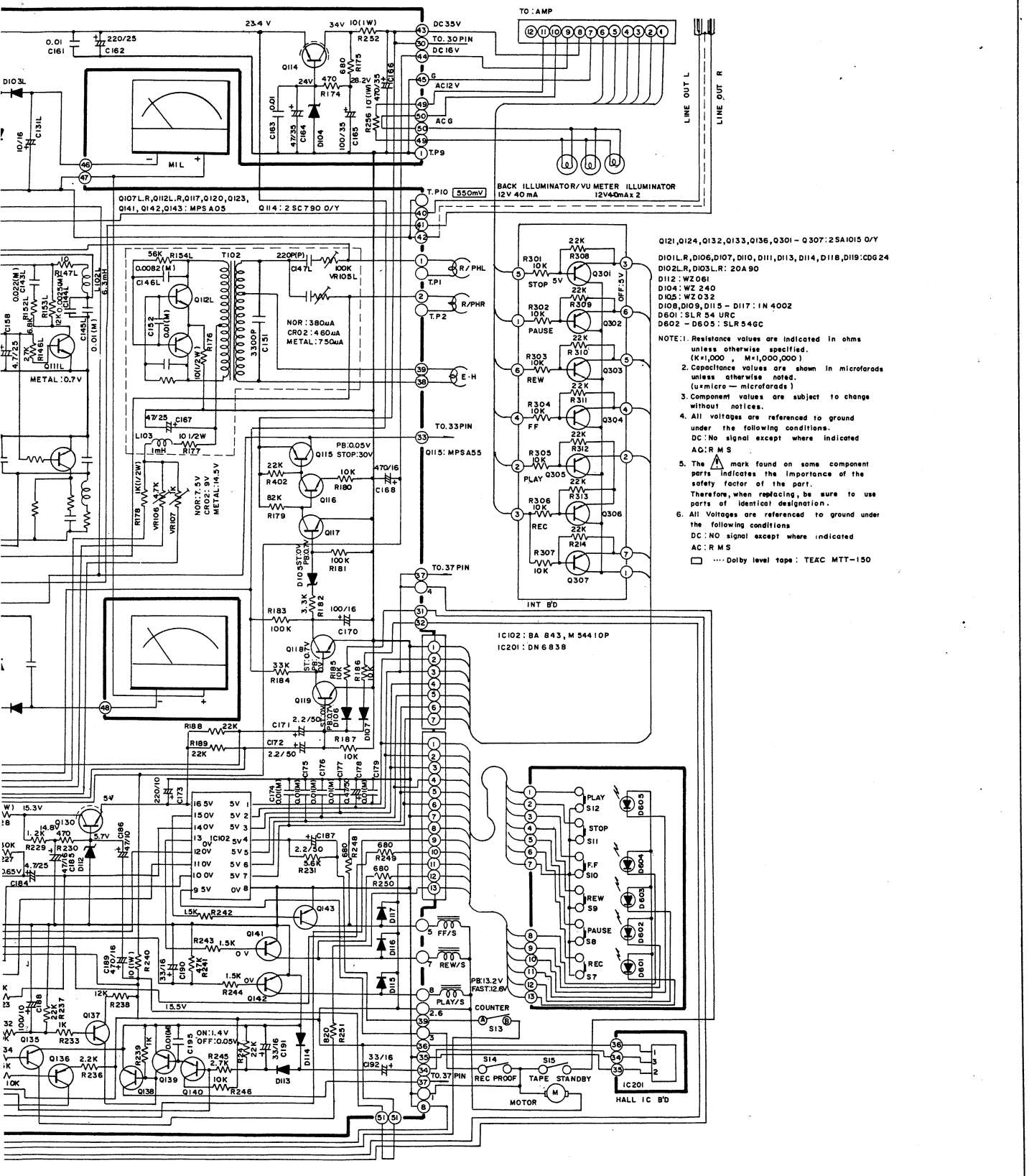
X40375 MAIN BOARD

Ref No.	Parts No.	Description	Q'ty
IC101L/R		IC Dolby NE646B	2
IC102		IC Control BA843, M54410P	1
IC201		IC Hall DN6838	1
Q101L/R		Transistor MPS 9633C/2SC732TM	4
Q102L/R			
Q103L/R		Transistor 2SC 1815Y	33
Q104L/R			
Q105L/R			
Q106L/R			
Q108L/R			
Q109L/R			
Q110L/R			
Q111L/R			
Q113,Q116			
Q118,Q119			
Q122,Q125			
Q126,Q127			
Q128,Q129			
Q131,Q134			
Q135,Q137			
Q138,Q139			
Q140			
Q107L/R		Transistor MPS AO5	10
Q112L/R			
Q117,Q120			
Q123,Q141			
Q142,Q143			
Q114		Transistor 2SC 790Y	1
Q115		Transistor MPS A55	1
Q130		Transistor MDS9400	1
Q121,Q124		Transistor 2SA 1015 O/Y	12
Q132,Q133			
Q136,Q301			
Q302,Q303			
Q304,Q305			
Q306,Q307			
D101L/R		Diode CDG24/MA150	10
D106,D107			
D110,D111			
D113,D114			
D118,D119			
D102L/R		Diode 20A90	4
D103L/R			
D104		Diode WZ240	1
D105		Diode WZ032	1
D108,D109		Diode 1N4002(1A100V)	5
D115,D116			
D117			
D112		Diode WZ061	1
D601		Diode LED SLR54URC	1
D602,D603		Diode LED SLR54GC	4
D604,D605			
L101L/R	PE-30111	Coil Inductor 36mH	2
T101L/R	PE-30105	Coil Rec Trap	2
T102	PE-30157	Coil Bias OSC	1
L102L/R	PE-30177	Coil Inductor 6.3mH	2
L103	PE-30109	Coil Inductor 1mH	1

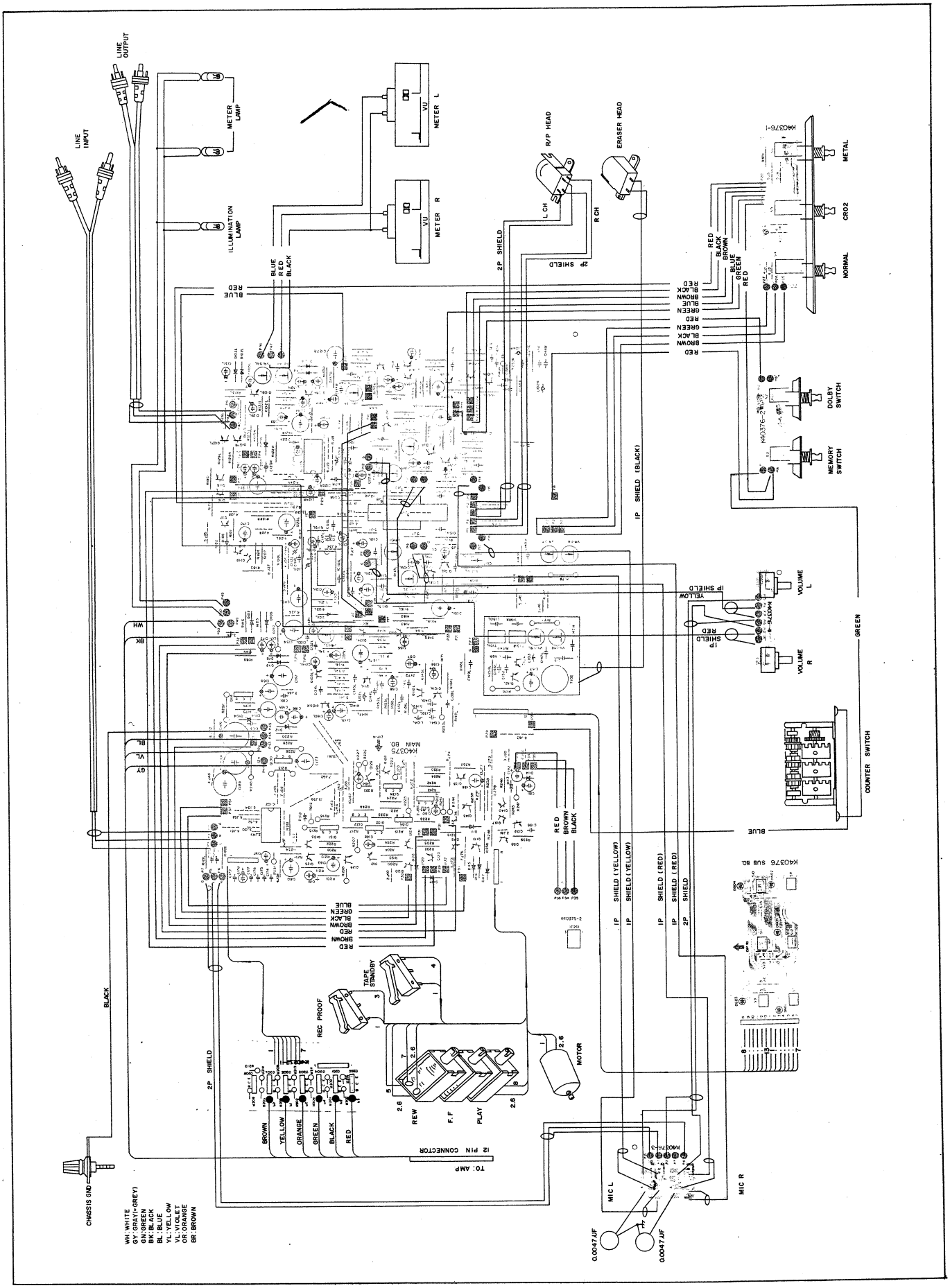
Ref No.	Parts No.	Description	Q'ty
VR107	PE-16009	Resistor Semifixed 1K ohm(B)	1
VR104L/R	PE-16000	Resistor Semifixed 4.7K ohm(B)	3
VR106			
VR102L/R	PE-16003	Resistor Semifixed 22K ohm(B)	2
VR103L/R	PE-16002	Resistor Semifixed 47K ohm(B)	4
VR101L/R			
VR105L/R	PE-16012	Resistor Semifixed 100K ohm(B)	2
R176,R177	60M100-½J	Resistor Metal Oxide 10 ohm ½W(J)	2
R160	60M680-½J	Resistor Metal Oxide 68 ohm ½W(J)	1
R178	60M102-½J	Resistor Metal Oxide 1K ohm ½W(J)	1
R240,R252	60M100-1K	Resistor Metal Oxide 10 ohm 1W(K)	3
R256			
R228	60M330-1K	Resistor Metal Oxide 33 ohm 1W(K)	1

SCHEMATIC DIAGRAM




TO : AMP
LINE OUT L
LINE OUT R
BACK ILLUMINATOR/VU METER ILLUMINATOR
12V 40 mA
12V40mAx 2
Q107 L.R,Q112L.R,Q117,Q120,Q123,
Q141, Q142,Q143 : MPS A05
Q114 : 2 SC 790 O/Y
Q121,Q124,Q132,Q133,Q136,Q301 – Q307 : 2SA1015 O/Y
D101L.R,D106,D107, D110, D111,D113, D114, D118,D119 : CDG24
D102L.R, D103L.R : 20A90
D112 : WZ 061
D104 : WZ 240
D105 : WZ 032
D108,D109, D115 – D117 : 1N 4002
D601 : SLR 54 URC
D602 – D605 : SLR 546C
NOTE: 1. Resistance values are indicated in ohms unless otherwise specified. (K=1,000 , M=1,000,000)
2. Capacitance values are shown in microfarads unless otherwise noted. (u=micro — microfarads)
3. Component values are subject to change without notices.
4. All voltages are referenced to ground under the following conditions. DC : No signal except where indicated AC : R M S
5. The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
6. All Voltages are referenced to ground under the following conditions DC : NO signal except where indicated AC : R M S
□ ···· Dolby level tape : TEAC MTT–150
INT B'D
IC102 : BA 843, M 54410P
IC201 : DN 6838
METAL : 0.7V
NOR : 380uA
CRO2 : 460uA
METAL : 750uA
NOR : 7.5V
CRO2 : 9V
METAL : 14.5V
PB : 0.05V
STOP : 30V
PB : 13.2V
FAST : 12.6V
COUNTER
REC PROOF
TAPE STANDBY
MOTOR
HALL IC B'D
PLAY
STOP
F.F
REW
PAUSE
REC

POINT TO POINT WIRING DIAGRAM



SPECIFICATIONS

MOTOR AND TURNTABLE SECTION

MOTOR	Frequency generator DC servo controlled motor
TYPE	Belt drive system auto return and auto cut functions
SPEEDS	33-1/3 and 45rpm
WOW AND FLUTTER	Less than 0.07% WRMS
SIGNAL-TO-NOISE RATIO	Better than 60dB (DIN-B)
PLATTER	Full size aluminium alloy die-cast platter (310 mm)

TONEARM

TYPE	Static balanced straight tubular tonearm, with detachable plastic head shell, oil damped cueing device, direct-readout stylus gauge counter weight, anti-skating device
EFFECTIVE ARM LENGTH	225 mm
OFF SET ANGLE	24.5 degrees
OVERHANG	18.7 mm
TRACKING ERROR	+2.6 ~ −1 degrees
SUITABLE CARTRIDGE WEIGHT	minimum 4g ~ maximum 10g
SUITABLE STYLUS PRESSURE	minimum 1g ~ maximum 4g

MISCELLANEOUS

POWER SUPPLY	SPARE FUSE	VERSION
AC100/120V 50/60Hz	0.3A	UL, CSA
AC220V 50/60Hz	T125mA	EUROPE
AC220V 50/50Hz	T125mA	EUROPE (Scandinavia Approval)
AC240V 50/60Hz	T125mA	BSI. SAA

OVERALL DIMENSIONS (WxHxD)	440 mm (17-15/16") x 117 mm (4-5/8") x 360 mm (14.3/16")
NET WEIGHT	4.3 kg (9.46 lbs)
POWER CONSUMPTION	9.5W

ACCESSORIES

EP ADAPTOR	1
OPERATING INSTRUCTION	1
SPARE FUSE	1

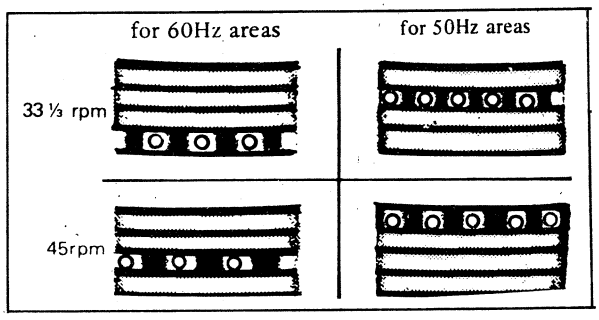
NOTE:

Specifications and the design subject to possible modifications without notice due to improvements.

OPERATION

STROBOSCOPE

The proper parts of the stroboscope band to read depends upon the power source and speed as shown below.



SPEED SELECTOR BUTTON AND ADJUSTING KNOB

You can select the speed 33-1/3 rpm or 45 rpm by pushing this button, and adjust the speed by rotating this knob.

REJECT BUTTON

You can interrupt or terminate the play by pushing this REJECT BUTTON.

CUEING BUTTON

You can raise or lower the tone arm when you start the play or when you wish the stylus to leave the record surface or lower gently onto the record.

ARM REST

The tonearm should be on the arm rest whenever the turntable is not in use. If the unit is to be moved or transported, first secure the tone arm to the arm rest with the built-in clamp.

ARM ELEVATION DEVICE

This device controls the height of the tone arm and cartridge when the tone arm has been fully raised.

ANTI-SKATING DEVICE

You can cancel the inside force on the stylus by adding outside force with this device adjusted to the value of stylus pressure.

Belt Drive System Remote Auto Return Turntable

PD40

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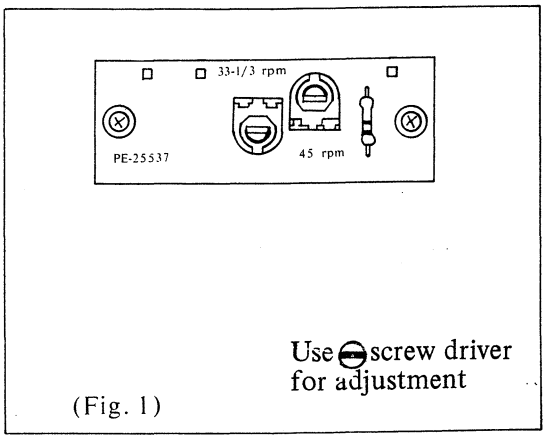
P.C. BOARD PATTERN AND PARTS LIST.....60, 61
SCHEMATIC DIAGRAM.....62

ADJUSTMENT

1. Speed Adjustment

When adjustment of the fine speed control knob does not give a satisfactory speed, adjust the coarse speed control in accordance with the following procedure.

1. Remove the bottom cover.
2. Set the fine speed adjusting knob to the mid position.
3. While observing the strobo pattern, adjust semifixed resistor on PCB PE-25537 for 33-1/3 rpm or 45 rpm, changing the speed by pushing speed selector button. (See Fig. 1).



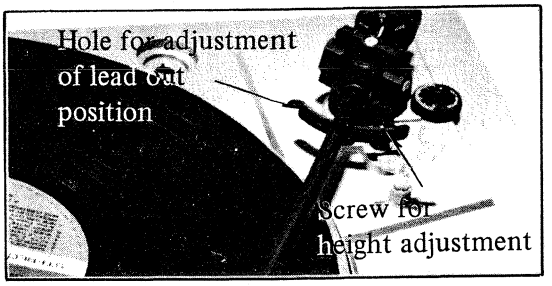
(Fig. 1)

2. Height Adjustment for Arm Elevation Device

When re-adjustment of height for arm elevation device is needed, you can do this alignment by adjusting the screw on the device. The clearance between record surface and the stylus when the tone arm is lifted up on the elevation device should be around 7 to 8 mm.

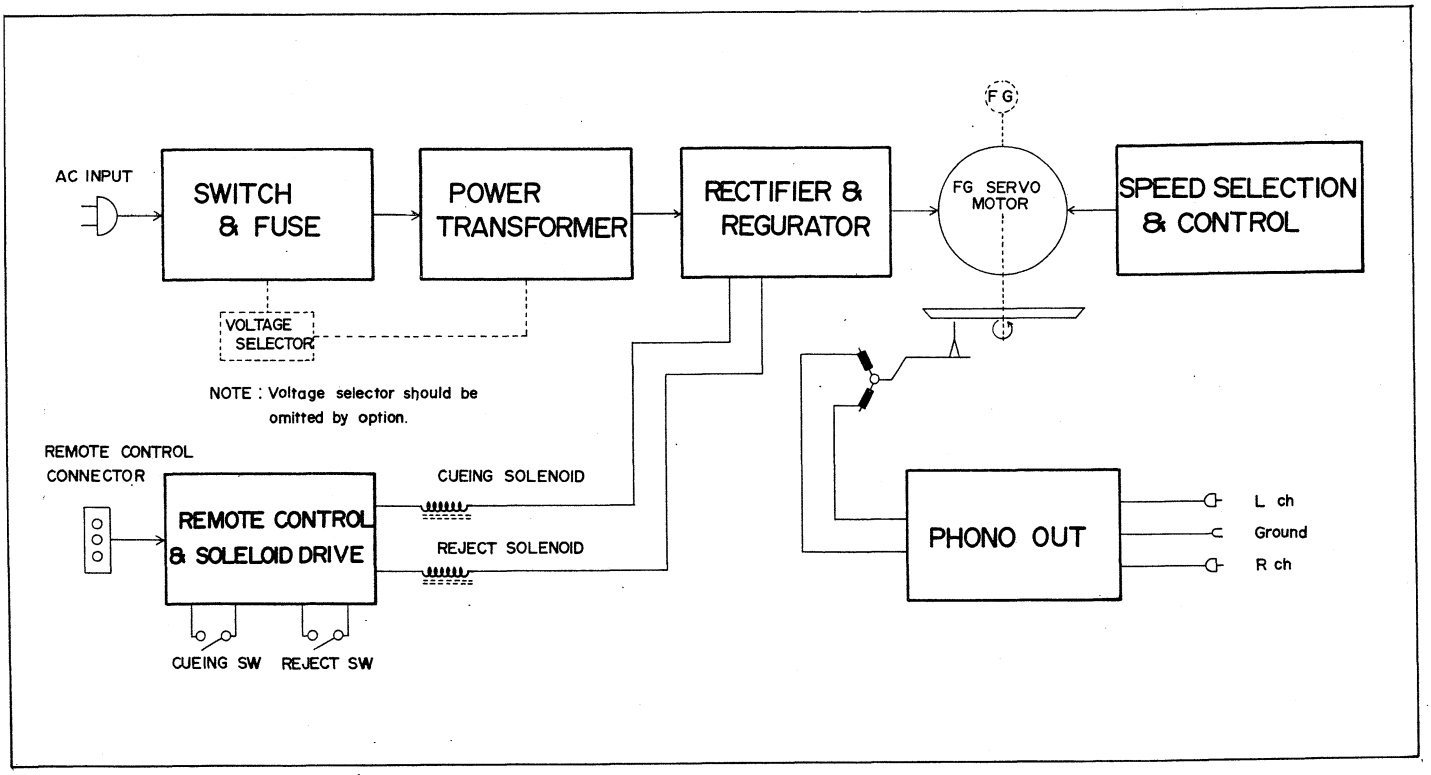
3. Adjustment of Auto Return (Lead Out) Position

When re-adjustment of auto return position is needed, you can do this alignment by adjusting the screw through the hole (see photo Fig. 2) using Philips screw driver. Clockwise rotation will make delyaed lead out and counter clockwise rotation will make earlier lead out.



(Fig. 2)

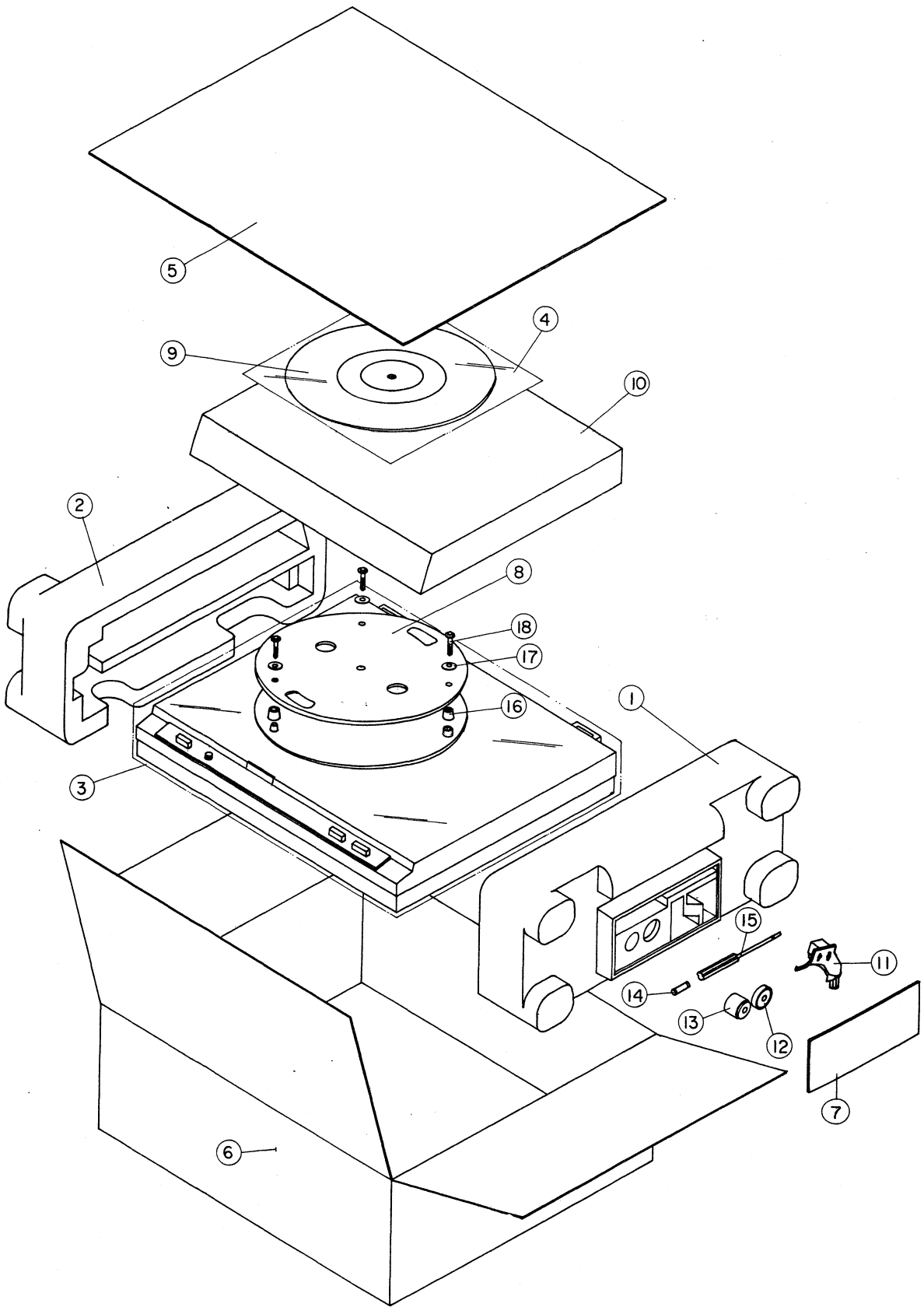
BLOCK DIAGRAM



EXPLODED VIEW AND PARTS LIST

1. PACKING

NO.	DESCRIPTION	PARTS NO.	STANDRND	Q'TY
1	R-CUSHION	25528		1
2	L-CUSHION	25529		1
3	POLY BAG	74097A		
4	POLY BAG (For RUBBER SHEET)	25566		1
5	PAD	25567		1
6	CARTON BOX	25530		1
7	ACCESSORY BOX COVER	25579		1
8	PLATTER	25461		1
9	RUBBER SHEET	25291		
10	DUST COVER	25465		1
11	HEAD SHELL ASS'Y	25532		1
12	45 RPM ADAPTOR	25140-02		1
13	COUNTER WEIGHT	25501-01		1
14	FUSE			1
15	DRIVER			1
16	SETTING For PLATTER	25488		3
17	LABEL	85L407		3
18	SCREW		WTCPH 4x30	3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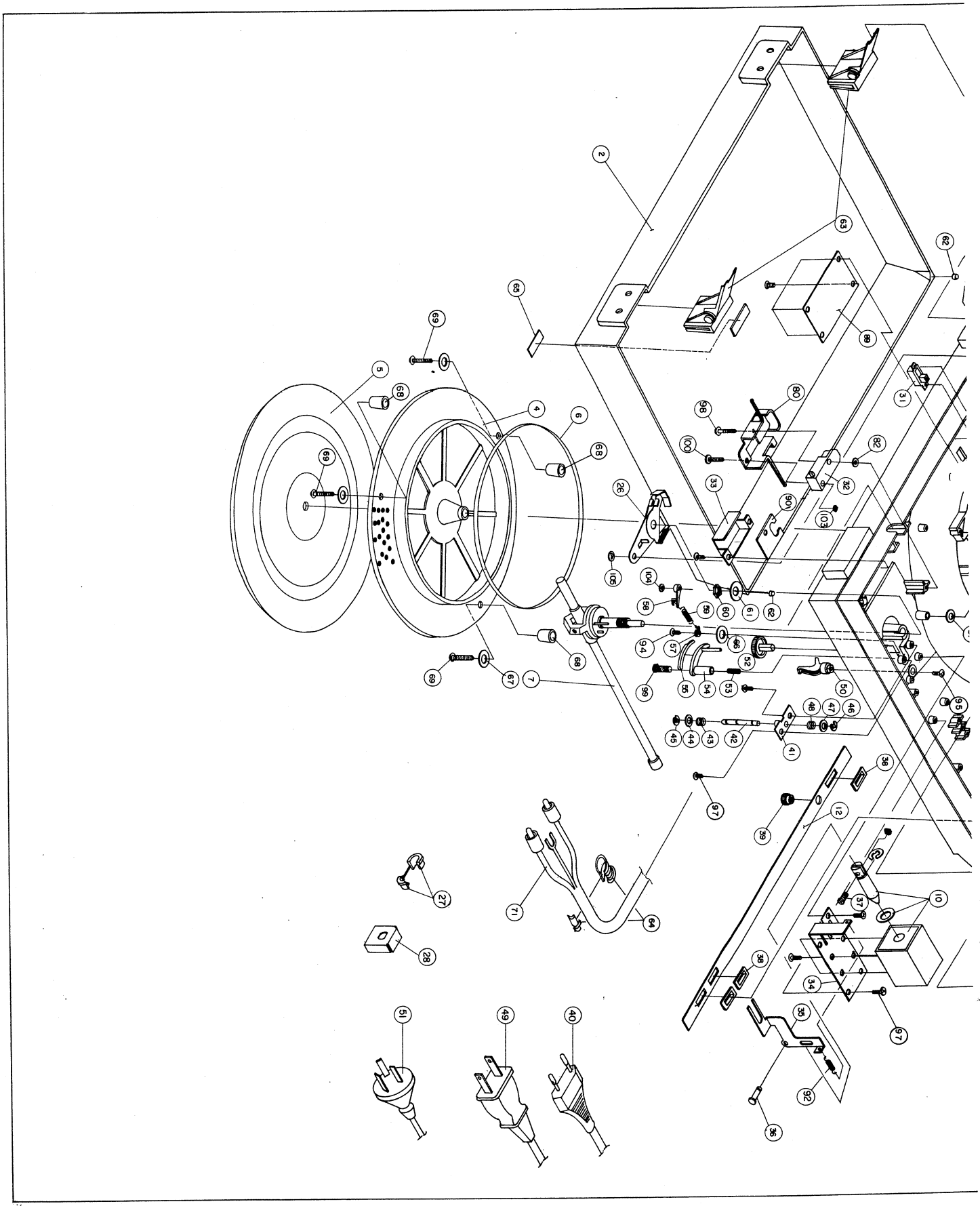
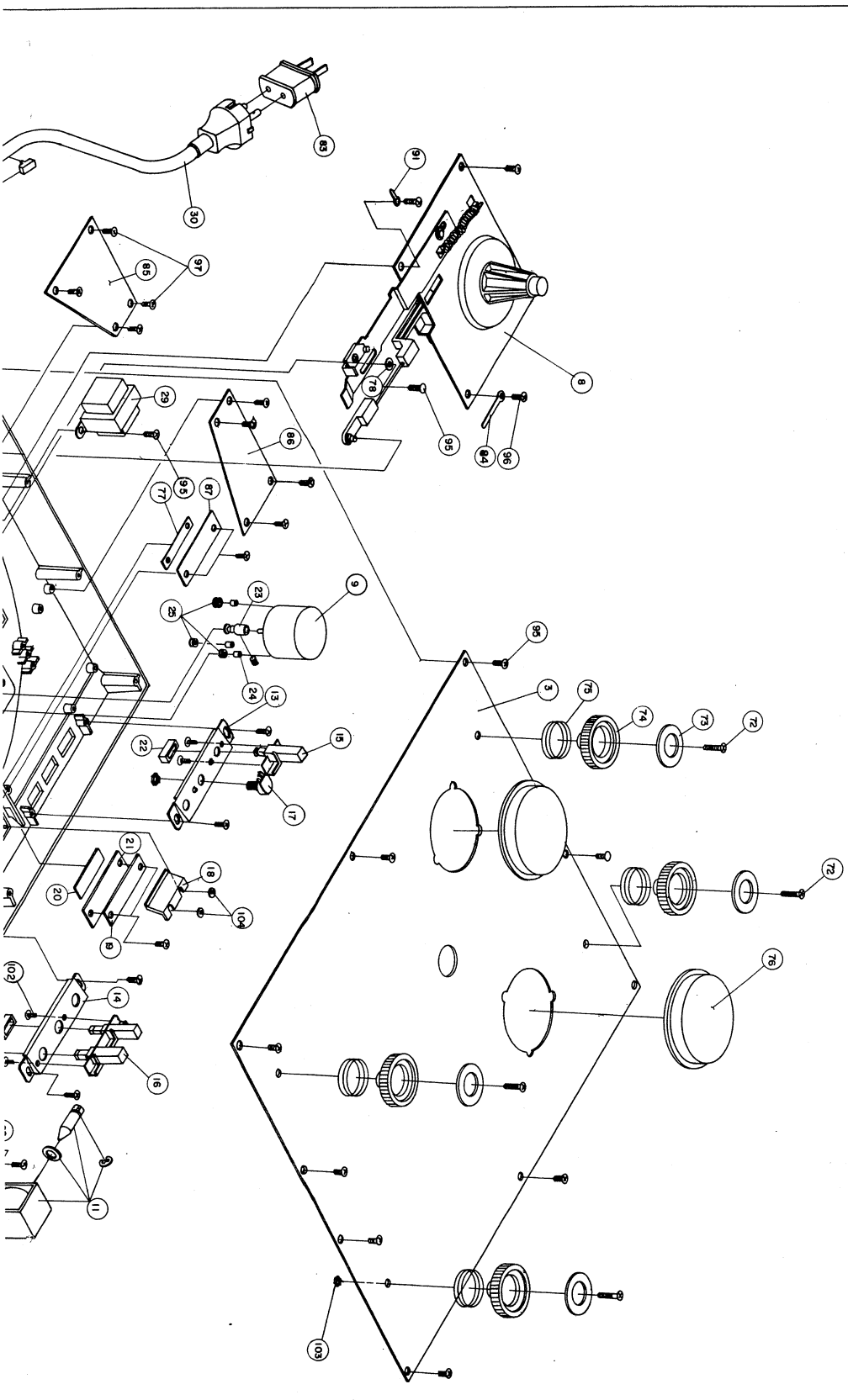
2. MECHANISM

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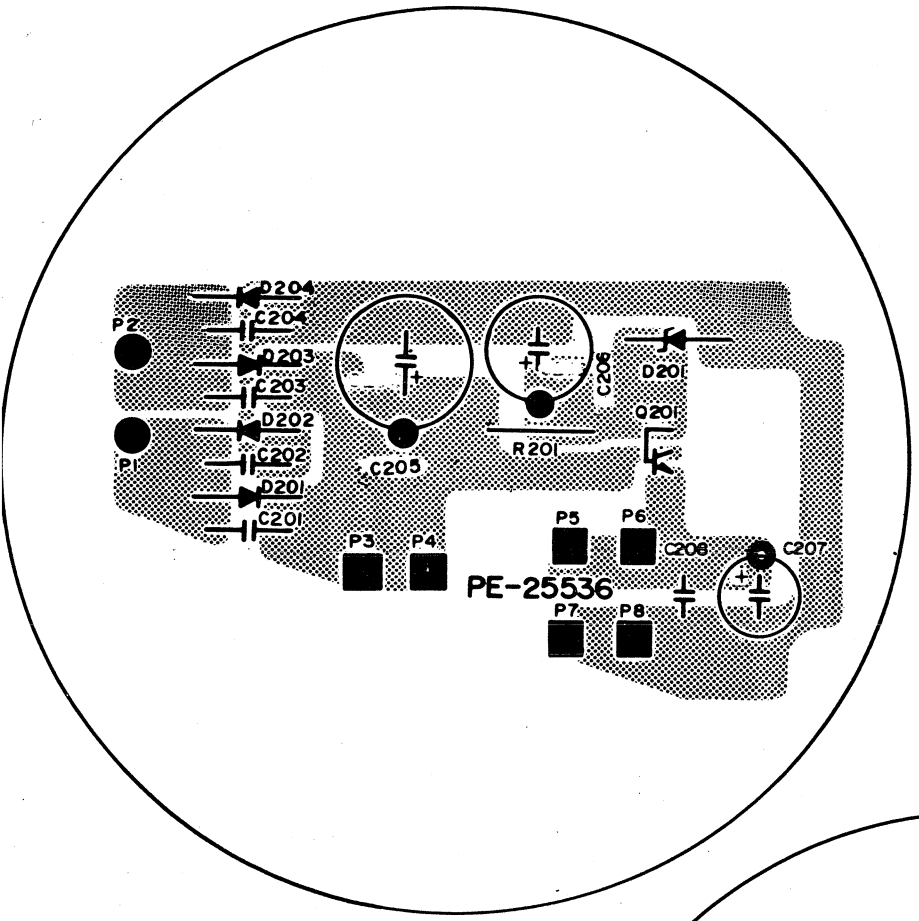
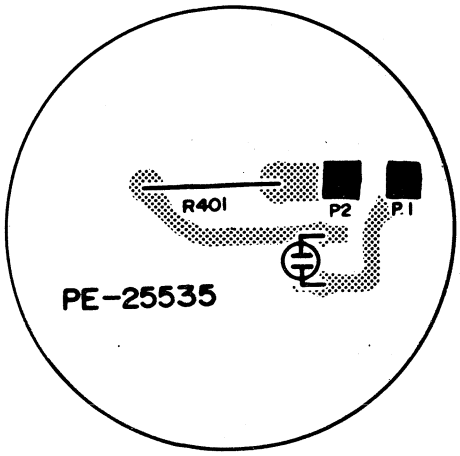
• PARTS LIST OF MECHANISM

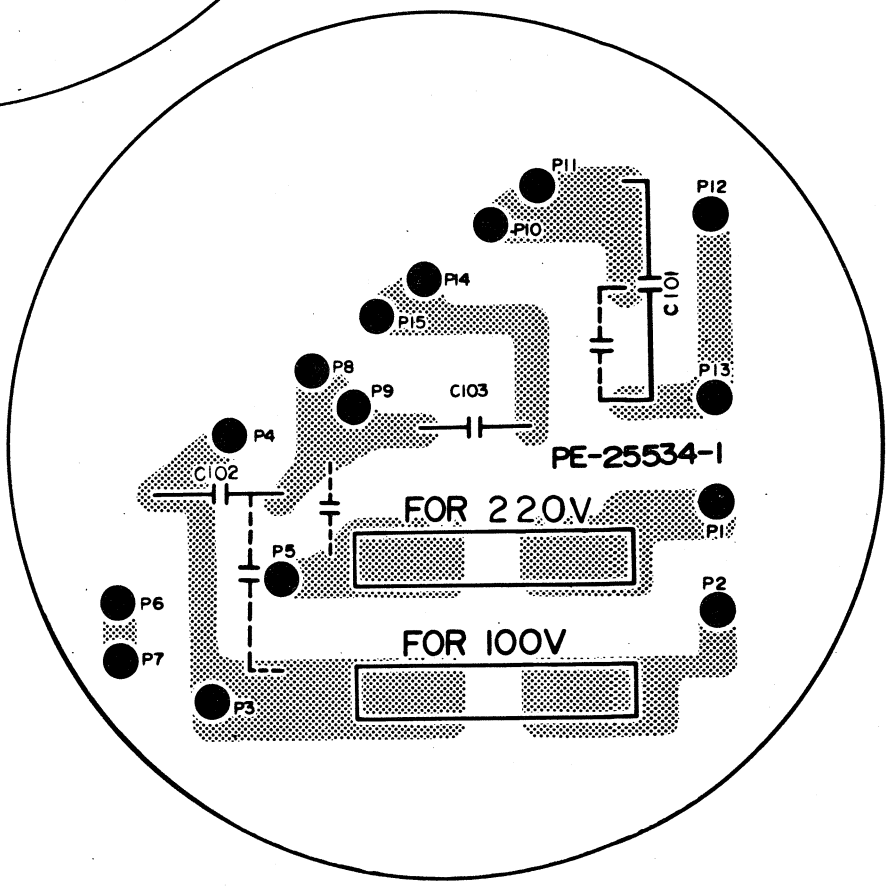
NO.	DESCRIPTION	PARTS NO.	STANDARD	Q'TY	REMARKS
1	MAIN CABINET	25464B-02		1	
2	DUST COVER	25465		1	
3	BOTTOM COVER	25512		1	
4	PLATTER	25461		1	
5	RUBBER SHEET	25291		1	
6	BELT	25397-01		1	
7	TONE ARM ASS'Y	25501		1	
8	BELT MECHA ASS'Y	25502		1	
9	FG SERVO MOTOR	25482		1	
10	SOLENOID	25506		1	
11	SOLENOID	25505		1	
12	FRONT PANEL	25491B-04		1	
13	SPEED B. K. T	25479		1	
14	CUE B. K. T	25478		1	
15	PUSH BUTTON S/W	25511		1	
16	PUSH BUTTON S/W	25522		1	
17	POTENTIO METER	25290-02		1	
18	PRISM	25469		1	
19	MIRROR PLATE	25542		1	
20	MIRROR	25541		1	
21	MIRROR PLATE	25542A		1	
22	PUSH KNOB	25274A		3	
23	PULLEY	25516		1	
24	MOTOR FIXING PIPE	25299-02		3	
25	MOTOR VIBRATION ABSORBING RUBBER	25298		3	
26	RESTORE LEVER	25589		1	
27	CORD STOPPER	71008A		1	For EUROPE, UL, CSA
28	CORD BRACKET	25583		1	For EUROPE, UL, CSA
29	POWER TRANSFORMER	25524		1	
30	AC CORD	67007		1	For KS
31	VOLTAGE SELECTOR	25533		1	For KS
32	MICRO SW	25500		1	
33	SHIELD PLATE	25531		1	
34	SOLENOID CUE B. K. T	25494		1	
35	SOLENOID CUE ANGLE	25493		1	
36	CUEING SHAFT	25495		1	
37	PIVOT SCREW	25490		1	
38	BEZEL	25476		3	
39	CONTROL KNOB	25481		1	
40	AC POWER CORD/PLUG	67007		1	For EUROPE
41	ELEVATION B. K. T	25285		1	
42	LIFTER SHAFT	25513		1	
43	LIFTER UP SPRING	25514		1	
44	LIFTER WASHER	25028		1	
45	E-TYPE RING		ϕ3	1	
46	E-TYPE RING		ϕ4	1	
47	LIFTER PLAIN WASHER	25074		1	
48	LIFTER LOWER SPRING	25527		1	
49	AC POWER CORD/PLUG	67045		1	For UL, CSA
50	ARM REST ASS'Y	25463		1	

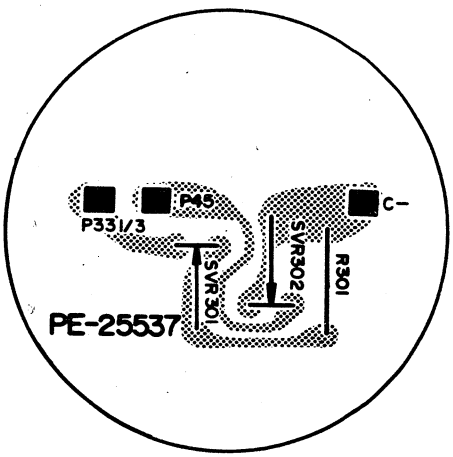
NO.	DESCRIPTION	PARTS NO.	STANDARD	Q'TY	REMARKS
51	AC POWER CORD/PLUG	67054		1	For SAA
52	ANTI-SKATING KNOB	25537		1	
53	ELEV. HEIGHT SPRING	25077		1	
54	ARM ELEV. GUIDE BAR	25070		1	
55	ARM ELEV.GUIDE RUBBER	25332A		1	RUBBER
57	ANTI-SKATING CAM	25273		1	
58	ANTI-SKATING LEVER	25467		1	
59	ANTI-SKATING SPRING	25316		1	
60	NUT		M10	1	
61	WASHER		ϕ10	1	
62	CUSHION RUBBER	25172A		2	
63	HINGE	25508-01		2	
64	CORD STOPPER	71050		1	
65	DUST COVER NAMEPLATE	25519-02		1	
66	ANTI-SKATING WASHER	25091		1	
67	LABEL	85L-407		3	
68	SETTING For PLATTER	25488		3	
69	TAPPING SCREW		M4x30	3	
71	PHONO CORD	25176		1	
72	SCREW		M3x20	4	
73	INSULATOR CUSHION	25288		4	
74	RUBBER FOOT	25477		4	
75	FOOT SPRING	25556		4	
76	F. G SERVO MOTOR COVER	25487		2	
77	LAMP COVER	25540		1	
78	SPACER	25485		1	
80	MICRO SWITCH CAP	25559		1	
81	PLAIN WASHER		ϕ3	1	
82	PLAIN WASHER		ϕ2.6	1	
83	AC CORD ADAPTOR	67053		1	For KS
84	WIRE CLAMP	69041		5	
85	AC FUSE BOARD	25534-01		1	
86	POWER SUPPLY BOARD	25536		1	
87	NEON LAMP BOARD	25535		1	
88	SPEED CONTROL BOARD	25537		1	
89	SOLENOID DRIVE BOARD	25538		1	
90	PHONO OUT BOARD	25534-02		1	
91	LUG SOLDER	60169		2	
92	SPRING	25497		1	
94	TAPPING SCREW		M2.6x8	1	
95	TAPPING SCREW		M3x10	22	
96	TAPPING SCREW		M3x16	4	
97	TAPPING SCREW		M3x8	31	
98	PIVOT SCREW	25489		1	
99	MACHINE SCREW		M3x18	1	
100	MACHINE SCREW		M2.6x8	3	
101	MACHINE SCREW		M3x15	1	
102	MACHINE SCREW		M3x6	6	
103	HEXAGON NUT		M3	6	
104	CS PUSH RING		ϕ2	1	
105	CS PUSH RING		ϕ3	1	

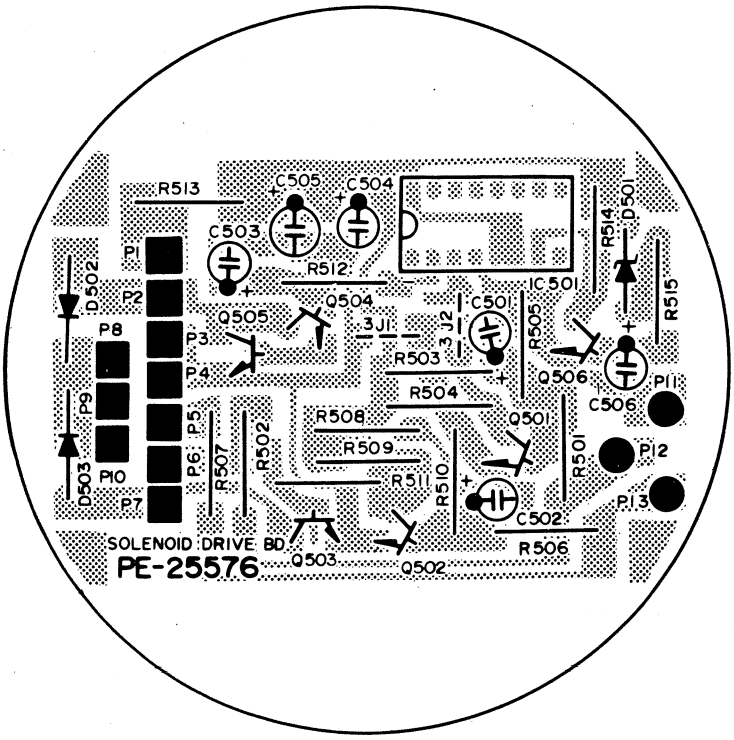
P.C. BOARD PATTERN AND PARTS LIST

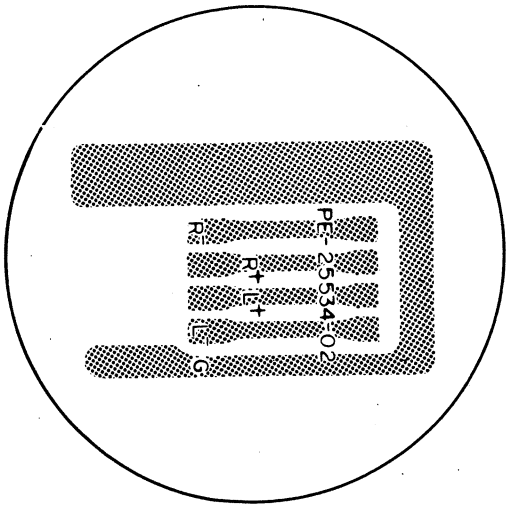












PARTS LIST

Ref No.	Parts No.	Description	Q'ty
PE-25534-01 AC FUSE B'D			
FOR UL,CSA VERSION AC120V/ 60Hz	36AST0.3-250	Fuse STD 0.3A/250V(31.8mm)	1
C101	ECQ-U1A473ME	Capacitor Metallized polyester 0.047uF/AC125V	1
C102	ECQ-U1A472ME	Capacitor Metallized polyester 0.0047uF/AC125V	1
FOR EUROPE VERSION AC220V/ 50Hz	36BSB0.125-250	Fuse Time Lag T125mA/250V (20m/m)	1
C101	ECQ-E2A473MW	Capacitor Metallized polyester 0.047uF/AC250V	1
C102	ECQ-E2A472MW	Capacitor Metallized polyester 0.0047uF/AC250V	1
FOR BSI, SAA VERSION AC240V/ 50Hz	36BSB0.125-250	Fuse Time Lag T125mA/250V (20m/m)	1
C101	ECQ-E2A473MW	Capacitor Metallized polyester 0.047uF/AC250V	1
C102	ECQ-E2A472MW	Capacitor Metallized polyester 0.0047uF/AC250V	1
PE-25535 NEON LAMP B'D			
R401	60M822-1J	Resistor Metal Oxide 8.2K 1W(J)	1
NEON LAMP	25133-02	ϕ6.3 100V-4mA	1

Ref No.	Parts No.	Description	Q'ty
PE-25536 POWER SUPPLY B'D			
D201, D202 D203, D204	IN4002	Diode Rectifier IN4002(1A 100V)	4
D205	IN759, WZ182	Diode Zener IN759 or WZ182	1
C205	50AL102-35	Capacitor Elect 1000uF/135WV	1
C206	50AL221-25	Capacitor Elect 220uF/25WV	1
C207	50AL101-25	Capacitor Elect 100uF/25WV	1
Q201	2SD880Y	Transistor 2SD880Y	1
PE-25537 SPEED CONTROL B'D			
SVR301, SVR302	PE-16015	Semifixed Resistor 20K ohms	2
PE-25576 SOLENOID DRIVE B'D			
IC	MC14027B	IC. MC14027B	1
Q501, Q502 Q504, Q506	C1815Y	Transistor 25 C1815Y	4
Q503, Q505	MPS A05	Transistor MPSA05	2
D501	WZ090	Diode Zener WZ090	1
D502, D503	IN4002	Diode Rectifier IN4002(1A 100V)	2
C501, C502	50AL228-50	Capacitor Elect 0.22uF/50WV	2
C505	50AL101-16	Capacitor Elect 100uF/16WV	1

SCHEMATIC DIAGRAM